



Borough of Swindon
EDUCATION COMMITTEE.

ANNUAL
REPORT

FOR THE YEAR 1930

OF THE

SCHOOL MEDICAL OFFICER

(DUNSTAN BREWER, M.R.C.S., L.R.C.P., D.P.H.)

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J. S. LOGAN, M.B., Ch.B., D.P.H.

VIOLET REDMAN KING, M.B., Ch.B. (Leeds).

Specialist Ophthalmic Surgeon.

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School Nurses—

Miss A. M. HOARE.

2 years Certificate of Hospital Training.

Certificate of Central Midwives Board.

Certificate of the Royal Sanitary Institute.

Miss I. D. SAMPSON.

3 years Certificate of Hospital Training.

Certificate for Tuberculosis (Royal Chest Hospital, London).

Queen's Nurse.

Certificate of Central Midwives Board.

Miss E. M. PILCHER.

3 years Certificate of Hospital Training.

School Nurses and Health Visitors and Tuberculosis Certificate.

Certificate of the Royal Sanitary Institute.

Miss A. HAWKINS.

4 years Certificate of Hospital Training.

Certificate of Central Midwives Board.

BOROUGH OF SWINDON.
EDUCATION COMMITTEE.

Area	...	...	...	...	...	...	6021 Acres
Number of Elementary Schools	...	...	...	...	...	...	16
Number of School Departments	...	...	...	...	...	...	34
Recognised Accommodation	...	...	...	...	...	...	11,244
Number of Children on Register	9,443
Average Attendance	8,392

Number of Secondary Schools	3
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Number of Scholars on Roll:—

The College, Secondary School	...	286
Euclid Street Secondary School	...	236
The Commonweal Secondary School		273

*To the Chairman and Members of the Education Committee of the
Borough of Swindon.*

LADIES AND GENTLEMEN,

I have pleasure in presenting the report upon the Medical Inspection and Treatment of School Children in the Borough for the year 1930.

The year 1930 was a quiet one for the school medical service so we were enabled to catch up certain arrears which had accumulated during the difficult year 1929 and get well ahead with the ordinary routine work of the department. There were no changes in the Staff during the year under review, nor any new developments of the service, which for some years has been fairly complete and calls for no radical alteration. Two important matters connected with the department are, however, at present under consideration, namely, the Open Air School, which gets no nearer realisation, and the re-arrangement of the school clinics so as to relieve the centre at Eastcott Hill which, with the growth of the borough, offers increasing difficulties of management.

During 1930 the X-ray treatment of ringworm was discontinued owing to local difficulties with X-ray machinery. The apparatus belonging to the department is no longer suitable for modern treatment, though its value for diagnosis remains unimpaired. This was not a matter of much consequence, because ringworm is rapidly declining and does not present the formidable problem it did in past years.

Consonance between the school medical department and the maternity and child welfare department, which in Swindon has been complete for ten years, allows the treatment of a considerable number of defects, usually treated during the infant school age, before the children enter school, and this is reflected in the drop in the percentage of "entrants" requiring treatment.

Though 1930 was, in general, a healthy year, it was an extremely unfavourable year for fatal disease among school children, there being no less than 49 deaths of children between the ages of two and seventeen. Several factors contributed to this. There were nine deaths from rheumatism and its sequelae, the highest number on record, and nine from diphtheria, seven of which occurred between the ages of five and ten. Eight deaths from tuberculosis give also an unusually high figure, though these were mainly the ends of old cases, the incidence of new tuberculosis during the year being low. Three deaths from meningitis follow-

ing ear disease were another grim feature. Generally the incidence of epidemic disease was low during 1930 and interfered comparatively little with school attendance.

FINDINGS OF MEDICAL INSPECTION.

The defects discovered at routine inspection show certain differences from those of last year. There was a noticeable drop in the incidence of ringworm. In 1921, when a vigorous campaign was started against ringworm, and for several years subsequently, the incidence of this disease, if it can be called a disease, was exceedingly high in Swindon, much higher than in most parts of the country. Some of this apparent excessive incidence may not be genuine, but due to the special attention that was paid to the detection of the disease locally, but there is no doubt that for nearly a decade the disease was more prevalent in Swindon than in the country as a whole. For the last two years there has been a considerable decline; in 1930 the cases known had dropped to 27 new and 25 old, and at the end of the year there remained but 21 cases in the town.

There was a noticeable increase in one or two minor defects: minor skin diseases, blepharitis, enlarged glands, enlarged thyroid and minor deformities. Most of the increases were due to alteration in the standards of the school inspectors. This is most marked amongst minor deformities. When allowance is made for this, the general distribution of defects shows no significant difference from that of the past few years.

CHILD RHEUMATISM.

1930 was an exceedingly bad year for child rheumatism in Swindon. Throughout the time that the present School Medical Officer has been connected with Swindon, rheumatism has been comparatively rare, the record for the town being exceptionally and somewhat puzzlingly satisfactory. Swindon forms part of the Bristol scheme for the supervision of rheumatic heart disease and Dr. Herapath, of Bristol, pays periodical visits to Swindon to examine our heart cases. The actual number of cases seen by Dr. Herapath in 1930 was 22, of which 10 were reported as being rheumatic heart disease of which four had arisen during the year. This, unfortunately, does not give us a true picture of the present position, for the heart disease of rheumatism develops slowly and insidiously and usually is missed until it is revealed by routine inspection. There were nine deaths from rheumatism amongst Swindon children in 1930, this number being in excess of any in any previous year. We have, however, no direct knowledge of cases of rheumatism that do not end fatally as the disease is not notifiable and, indeed, is frequently so appar-

ently trivial that it receives scant medical attention. The incidence must have been great to give nine deaths, for the fatality of acute rheumatism is low.

PROVISION OF MEALS.

The Education (Provision of Meals) Acts of 1906 and 1914, were in force in the Borough throughout the year. The scheme for carrying out this work remains similar to what was in vogue last year. It is extremely simple, easy to administer and very cheap, but efficient for dealing with local needs.

SCHOOL BATHS.

There are no school baths in Swindon, nor, indeed, are there any public baths. The Great Western Railway Medical Fund Society possesses private baths and swimming baths which, for all practical purposes are open to the public. The swimming instruction of the scholars is carried out in these baths.

EMPLOYMENT OF CHILDREN AND YOUNG PERSONS.

There is no employment of young children in Swindon. The Juvenile Employment Committee looks after children and young persons and this committee is in constant touch with the school medical department. Since practically all the children in Swindon are known to the school medical department, which possesses life records of them during their childhood, co-operation is comparatively simple.

SPECIAL INQUIRIES.

The special inquiries in progress in Swindon are :—

1. An inquiry into the distribution and causes of thyroid disease.
2. An inquiry into the histories and environment of rheumatic children.
3. An inquiry into the pulse rate and blood pressure during school age.
4. An inquiry into the blood changes of childhood.

Numbers 1 and 4 will be referred to in the appendix.

INFECTIOUS DISEASE.

The incidence of the common infectious diseases was low in 1930 and interference with school attendance from this cause below average. An epidemic of scarlet fever interfered with the attendance to some extent in the early part of the year, and an epidemic of diphtheria began to play havoc towards the decline. Both measles and whooping cough were comparatively low in incidence amongst school children. School closure from infectious disease is never utilised in Swindon and the disinfection of school premises, which still has some popularity amongst the older school of epidemiologists, has been abandoned. A more important matter has regard to the exclusion of contacts. In general, the recommendations of the Board of Education are followed, but since the Board's schedule was drawn up, much knowledge in regard to the endemic infections has become available which renders it doubtful whether the exclusion of contacts in epidemic times does not further instead of diminish the amount of disease produced by infection. It has not yet been possible to formulate a practice to accord with the researches of Topley, Dudley and Stocks or, indeed, to reconcile what we do with the theory of infection which rests mainly, though not exclusively, upon the researches of these authorities. If Stocks is correct (and his work on the subject resists all assaults against it) it should be possible to utilise exposure to infection as a means of raising herd immunity and escaping the disease re-action or so modifying it that it becomes trivial; but how to do this is a puzzle that is not yet solved, though there are many able minds at present at work on it. Whatever may come from research in field epidemiology, it is quite certain that no reasonable scheme can ever be reduced to rule which can be automatically carried out. We shall never be able to say, for instance, that it is, or is not, safe for cases of scarlet fever or their contacts to mix freely with the population, though we may be able to say quite definitely whether any given case is, or is not, safe in any given environment.

FOLLOWING UP.

The method that has been in practice in Swindon for many years produces an automatic following up of all children from birth until they leave school or otherwise fall out.

OPEN AIR EDUCATION.

We have no Open Air School in Swindon, though for the past eleven years we have been agitating for one. There still lingers some faint hope that at some future period some commencement may be made towards its realisation.

PHYSICAL TRAINING.

There is close association between the school medical service and the physical training given in the schools, and we hope, in the near future, to develop this by utilising the services of the orthopædic surgeon to survey the physical state of the children and advise the instructors in physical training.

CO-OPERATION.

Co-operation between the school medical department and the parents, teachers, attendance officers, and various agencies which are capable of giving help, is essential for smooth working and a satisfactory scheme. We have long since overcome any difficulty in obtaining this co-operation. Co-operation with the parents is, of course, the most important point, for this means the satisfactory education of the parents and what is obtained by education is lasting and progressive. All parents are not as enlightened or as sweetly reasonable as might be desired, but to win over an obstructive parent, or to educate an ignorant one, is to produce a lasting benefit, of very different value from the temporary success which can be obtained by force.

NURSERY SCHOOLS.

There are no Nursery Schools in Swindon nor indeed are any called for.

SPECIAL SCHOOLS.

There is a Special School in Swindon for mentally defective children. During the last year some progress was made in developing this school for the education of defectives who are educable and some effort was put into the work of killing the tradition which this school has behind it.

CONCLUSION.

Lord Kelvin said that biology could not rank as a science until its functions could be expressed in mathematical terms; but in the fifty years that have elapsed since his statement, our knowledge of biological phenomena has increased enormously and as it increases it becomes less and less possible to express biological functions mathematically. The reason for this is the fundamental difference between living and non-living matter. Spencer's definition of life: "The continuous adjustment of internal to ex-

ternal relations," given some sixty years ago and completely misunderstood at the time, has recently found favour amongst biologists and gives a reason for the difficulty in applying mathematics to biological phenomena. The terms that we use in common parlance, normal, defect, disease, being relative to unknown constants, have but the vaguest meaning. If we were dealing with an organism which had evolved to the state in which it was no longer subject to great variation, we could establish some average or mean which would correspond somewhat closely with the normal, but in dealing with man—an animal in a state of rapid evolution, in many respects unspecialised and in others most highly but irregularly specialised and therefore liable to such enormous variation that in no particular are any two individuals similar—there can be no normal as applied to the species, though there is a normal for each individual at any particular minute. This, however, would have to be worked out separately for each and is at present quite beyond our expression. Consequently each inspector has to form, in his own mind, a somewhat broad standard which he regards as healthy. Naturally no such standard would admit of the inclusion of any definite disease obviously calling for remedy, or any gross defect; but it is much influenced by the æsthetic sense of the examiner, particularly in such particulars as spinal curvature, flat foot, abdominal conformations, or nutrition. In such matters the proportion of children found defective may vary from one per cent. to ninety or more per cent. according to the special view of the examiner. There are those who think that we should set a high standard and attempt to reach it and who hold that by perfect heredity, nurture, and environment such could be obtained; but there is little biological foundation for such a view. No doubt it would be very delightful if we could all have the physical attributes of Venus or Apollo combined with the mental qualities of Shakespeare or Newton and the moral perfection of Asissi, but it may well be questioned whether such combinations are biological possibilities. For though we have talked for 2,000 years about "*Mens sana in corpore sano*" the study of variations tells us that variations are frequently correlated and that certain combinations are impossible. Thus, it is impossible to breed a sandy female cat or a blue-eyed cat with coloured hair, and it may be that we could not produce a Venus who was not a social nuisance, or a Shakespeare without a remarkably ugly ear. Little is gained and a great deal may be lost by placing the standard of normality too high, but on the other hand, it is a great mistake to place it too low so that it could include anything which could rightly be called pathological. Another error which is common is due to lack of the knowledge of the biology of development. There is an exceedingly able article by Dr. Harris on development in the recent publication of the Board of Education, "*Primary Education*." This may well be studied by persons who, though trained in medicine, are but poorly equipped with knowledge of biology. During several

age periods of man, particularly that which precedes puberty, a healthy condition is one which bears a superficial resemblance to ill-nutrition. During this period the limbs resemble bent match sticks, with big joints, poor muscles and absence of subcutaneous fat. Much damage is done to healthy children in this condition by trying to make them plump. Somewhat similar traps occur throughout the whole of the developing period.

Health is dependent upon balance of function and upon the capacity of the organism as a whole to re-act to environment; these are practically the same thing. The functions themselves may, and actually do, differ considerably in different individuals, but it is impossible to say whether any one is healthy or not unless it is known how it is balanced by the others. It is, for instance, impossible to say that there is a normal temperature, or normal heart rapidity, or a normal weight, without consideration of all other factors that concur with it. Two men, one five feet high and the other six feet, may both be normal, but neither could be normal if any one function normal to the one occurred in the other. It follows from this that the general aim and object of school inspection and of all preventive medicine is extremely difficult to reach, but it is not impossible, for there is a limit to physiological variation and it is possible to determine what is within this limit and whether the balance is, or is not, maintained.

The true aim of medical inspection is not to hunt out specimens from which surgeons can pick bits, though it must be admitted that a great deal of attention has to be directed to this object, which from the old way of looking at things, unfortunately far from obsolete, seemed to be quite satisfactory. But it is obvious that from biological conception it is all wrong, for within certain limits nothing can require surgical treatment in its initial stages, the departures from physiological balance being but seldom occasioned by structural alteration, and it is the true business of inspection work to detect departures from balance before structural changes take place. Since physiological strain, in the main, arises from failure to re-act to environment, it must, in most cases, be possible either to alter environment or to modify re-action so that tangible disease does not develop. This gives a much limited role to surgery and the undoubted fact that, particularly since the war, most medicine, both curative and what is alleged to be preventive, has led to the enormous increase in surgery, is an acknowledgment that preventive medicine has not developed as it should have done. Incidentally it is at present causing violent controversy between the biologists and the surgeons. The former allege, and not without reason, that everything works against them, that their efforts are not understood and not appreciated and that the public, for whose benefit all should be directed, delight in the attention of the surgeons

and ignore the advice of the physiologists. Recently, however, there has been a slight change of attitude. A very remarkable address, given by one of the foremost surgeons living, on the future of surgery, has made one section of the community think that if this is indeed the future which the surgeons promise us, alternative propositions ought to be considered. As a counterblast to this address we have had an equally famous and far more erudite pronouncement from the foremost authority on statistical medicine and the guarded, but still emphatic, report of Sir George Newman in the State of the Public Health in 1930, which have given great encouragement to those who look upon the preservation of human health as the practical application of biological principles.

DUNSTAN BREWER,

School Medical Officer.

March, 1931.

APPENDIX 1.

REPORT OF THE SCHOOL DENTAL SURGEON.

To the Chairman and Members of the Education Committee.

LADIES AND GENTLEMEN,

I have pleasure in presenting the Annual Report on Dental Inspection and Treatment for the year 1930.

Twelve Elementary Schools comprising 25 departments have been dentally inspected, and it was found that 76.6% of the children require treatment. 3,655 children were referred for treatment and 3,342 attended the Clinic.

ELEMENTARY SCHOOLS.

6,508 appointments were made, 6,253 or 96.08% were kept.

3,952 teeth were extracted and 1,146 were filled.

12,639 other operations, including dressings, scalings and root treatments were carried out.

Thirteen regulations were completed by means of Orthodontic appliances.

One fact which is revealed from the inspection is an increase of 1.6% in the amount of caries found. This calls for special notice as it is in the entrants that the increase in dental caries seems to be prevalent.

Otherwise there is no important change to record from last year. The work is steadily increasing, and the demand for treatment at the Clinic greater.

The practice of seeing all children up to nine years of age and following up those who accept treatment is being continued.

Casuals (those having no appointment) are seen each school morning between 11 and 12).

INFANT WELFARE.

304 Children were treated from the Infant Welfare Centre, and 43 patients were treated or given advice from the Ante-Natal Clinic.

ROUTINE INSPECTION.

4,768 Children were inspected at the schools.

1,083 or 22.7% were found free from caries.

31 or .65% were found to require no treatment.

3,655 or 76.6% were recommended for treatment.

3,038 or 83% recommended, attended the Clinic for treatment.

6,253 attendances were made.

2,383 of these were rendered dentally fit as the result of treatment.

SECONDARY SCHOOLS.

Dental inspection was carried out at the three secondary schools (The College, Euclid Street, and the Commonweal).

765 pupils were examined.

401 or 52% were referred for treatment.

Treatment is at present proceeding for this group of pupils.

225 pupils were treated at the Clinic and made 422 attendances.

100 teeth were extracted and 264 permanent teeth were filled.

197 other operations (including scalings, dressings and root treatment) were carried out.

A detailed report of the inspection is appended in the statistical tables for Higher Education.

A point worth noting from this inspection is the drop to 49% from 62% in the entrants requiring treatment. Undoubtedly this shows the value of routine inspection and treatment during the years in the elementary schools.

Once again I thank all the teachers and members of the medical department for the assistance they give us in carrying out our work, and assure them that it is greatly appreciated.

W. KENYON BERRIE, L.D.S., R.F.P.S.G.,

School Dental Surgeon.

March, 1931.

APPENDIX II.

REPORT OF THE OPHTHALMIC SURGEON.

LADIES AND GENTLEMEN,

I have the honour to submit my report on the work of the Eye Clinic. As in former years the work has gone on continuously during the school terms.

After Dr. Oldershaw had left the numbers of applications for treatment were greater than I was able to deal with, but this state of things has now been overcome, thanks to the valuable help I have received from Dr. Logan in doing the refraction work.

The arrangement is continued with the Oxford Eye Hospital for the treatment of children as in-patients when required, and this has proved as valuable as in former years.

I wish again to record my gratitude to the Nursing and Clerical Staffs for their active help in carrying on the work of the Clinic.

O. B. PRATT, M.A., M.B., M.R.C.S., L.R.C.P.,

Ophthalmic Surgeon.

March, 1931.

APPENDIX III.

REPORT OF AURAL SPECIALIST.

To the Chairman and Members of the Education Committee.

LADIES AND GENTLEMEN,

There has been a considerable development in the work of the Special Aural Clinic during the year 1930. The number of patients examined has increased from 24 to 53, and the number of consultations from 25 to 56, as compared with the year 1929. This is probably due in part to the uninterrupted working of the arrangements, and in part to an increased popularity of the Clinic as a result of its beneficial record.

The conditions dealt with in this Clinic have an important bearing on the future health of the children. Careful records are kept of the medical histories, which may be of use in later years.

I should like to express my appreciation of the assistance I have received from the Medical, Nursing and Clerical Staff.

F. COURTENAY MASON.

B.A., M.B., M.S. (London), F.R.C.S., Eng.

March, 1931.

SUMMARY OF CASES SEEN AT SPECIAL AURAL CLINIC, 1930.

Number of Clinics held	...	...	...	...	...	7
Number of cases examined	...	...	...	...	...	53
Number of consultations	...	...	...	...	...	56
Number of attendances at Clinic	...	...	...	...	...	56
Number of cases recommended for:						
Mastoid operation (Operations performed)	...	...	...	...	...	2
Operation for removal of Tonsils and Adenoids (Number performed 19, Refused 8, Awaiting operation 2)	...	...	...	...	...	29
Operation for removal of Adenoids only (Operations performed)	...	...	...	...	...	3
Operation for Nasal Obstruction (Operation performed)	...	...	...	...	...	1
Operation for removal of Tonsils only (Operations performed 3, Refused 2)	...	...	...	...	...	5
Other operations—S.M.R. (Operations performed)	...	...	...	...	...	2
Other forms of treatment—Ionisation, etc.	...	...	...	...	...	8
Observation :—						
? Mastoid	...	...	...	...	...	1
? Nasal operation	...	...	...	...	...	1
Nasal obstruction	...	...	...	...	...	1
TOTAL						53

APPENDIX IV.

THYROID DISEASE IN CHILDREN.

In the Annual Report for 1925 we published, as an appendix, an inquiry into thyroid swelling affecting children in the Borough of Swindon, based upon the experience of a special clinic which we had had locally for the preceding five years. Half a decade has elapsed since the first report, so it seems desirable to augment, and where necessary to modify, what was written in 1925, in the light of the experience which has been gained since that date.

Five years ago, a great deal of attention was paid to thyroid enlargement in children, but recently interest in the subject has slackened. The reason for this is not far to seek and is of some interest, because it operates in all medical researches, with their consequent introduction of new forms of treatment, which have been prosecuted during the past fifty years. When attention is first paid to a special subject, many discoveries are made, new knowledge in abundance falls from research and indications for new forms of treatment are numerous. But, unfortunately, the abundance of fruit tends to produce dogmatism and exorbitant claims, and as research proceeds the harvest of new knowledge becomes thinner and mainly of a nature to force modifications of the original claims, often to so great an extent as to be disappointing. Moreover, it is a little difficult in this short and busy life to maintain a fixed interest in any subject over a large number of years and many feel that, having skimmed the cream off a promising line of investigation, it is not worth labouring for the small return that can be obtained from pursuing it. It is for this reason that attention to thyroid function has rather dropped out of late, but the subject is very far from being exhausted.

In this short study we shall modify and augment what we said five years previously, though we do not profess to have got any nearer the solution of some of the outstanding difficulties. In 1925 we had definitely come to the conclusion that so far as preventive medicine is concerned, the two major forms of disease connected with the thyroid gland, namely ex-opthalmic goitre and myxœdema, had a common origin. Since that date, the development of the biological conception of disease has converted a pathological paradox into a biological truism. Taking the balance of function as the criterion of health, disease must be the upset of this balance and the prime cause of all disease, the factors which interfere with true balance. If we consider the thyroid gland as an item in the endocrine cycle whose function is to manufacture and balance a special chemical substance, which in this case is one containing the element iodine, the genesis of

thyroid disease can be made clear. Of the elements of which the thyroid secretion is made, the only one which is exceptional is iodine and from this it has been concluded that lack of iodine is the initial cause of thyroid failure. There is abundant experimental and field evidence that this is the case. Without iodine the thyroid cannot function; with insufficient iodine intake it can only function imperfectly or under difficulty. Poverty of iodine intake is the cause of thyroid failure, but the amount of iodine required is variable, for it depends upon the call made by the body for thyroid secretion. One may presume that under all normal circumstances the amount of available iodine in the food supply is sufficient to supply any call that may be made for thyroid secretion. About the time that the connection between iodine deficiency and thyroid disease was receiving great attention, an explanation which, on the surface, was totally opposed to it, also gained considerable favour: namely, that thyroid enlargement was caused by septic intoxication. The work of McCarrison gives great support to this theory but it also showed that the two explanations are not antagonistic but confirmatory. It seems clear that the proper way of looking at the matter is this. The thyroid function varies with the call made upon it. If this call is not excessive and the supply of iodine in the food-stuff is ample, the thyroid remains small; but if the call is excessive, or if the supply is deficient, the thyroid gland will enlarge. The call is normally excessive shortly before ovulation and it is normally or abnormally excessive during the process of re-action to infection. The gland will enlarge abnormally if the supply of iodine is deficient at the same time as the call is excessive. Of itself, enlargement of the thyroid gland is no more to be considered a disease than is the enlargement of the muscles in an athlete, but since the enlargement in both cases comes about from the utilisation of potential, both are liable to exhaustion and to degeneration.

Normally the thyroid gland alters in size with a monthly rhythm and the output of thyroid secretion varies also in a monthly rhythm. This phenomenon is most readily observed in menstruating females. The thyroid gland starts to increase in size towards the end of the menstrual flux, it increases steadily for rather less than three weeks and then rapidly diminishes, reaching its minimum size at ovulation. The symptoms of increased thyroid activity are to be observed when the gland is shrinking, i.e., just before ovulation. At this time it is possible to produce the symptoms of ex-ophthalmic goitre by the administration of large doses of iodine or of thyroid extract, but during the remainder of the cycle such symptoms cannot be produced by iodine and only with difficulty by thyroid extract. There is a work by S. C. M. Sawton and C. E. Myers called "Two Contributions to the Experimental Study of the Menstrual Cycle," published as Report No. 45 of the Industrial Health Research Board, which, though

little known, is one of the most enlightened pieces of research of the past decade, which enables us to form a mental picture of the biological phenomena of the lunar rhythm centred round ovulation. The thyroid function fits into this rhythm in the manner indicated above, but the monthly cycle of thyroid function is not limited to females and can be observed, though rather less strikingly, in children of both sexes, particularly in those in whom the gland is chronically enlarged. It will be seen that this rhythmical variation bears very strongly on the question of treatment and management. Of the two factors which cause difficulty to the thyroid, undoubtedly the more important is poverty of iodine intake. If this is slight, the gland becomes enlarged probably to extract more freely such iodine as is available, but should the deficiency be great, the thyroid either atrophies, or fails to develop and cretinism results. Endemic enlargement of the thyroid is common and is generally found in places where the local soil is deficient in iodine. The work of Orr and Leitch practically proves that an inland community obtains most of its iodine supply from vegetables, especially those of the order cruciferae. This had been deduced by us from observation in 1925 and the management of endemic goitre in Swindon was based upon this assumption. Since the memo of 1925 was written, through the courtesy of the Rowett Institute, Aberdeen, we have had analyses made of the water supply, the soil, local vegetables, and the thyroid gland of sheep, from the Swindon district. Details of these analyses will be found in the special reports Nos. 123 and 154 of the Medical Research Council. From these we learn that the iodine content of Swindon water is 0.05 y, the lowest of any water supply in the country, and that the iodine content of milk, pasturage and of some other foods, particularly cabbage and onion, is low. In Dr. Orr's second report, which is No. 154 of the Medical Research Council, Swindon is given as a district of low goitre prevalence, but though the local incidence has decreased very markedly of recent years, Swindon must still be considered as a potential endemic centre.

The thyroid is much the largest of the endocrine glands and is the only one which can be inspected during life. We do not know whether the other members of the ring vary in size as does the thyroid. It is quite possible that the suprarenals, for instance, might undergo rhythmical variations as does the thyroid or that they may be subject to more persistent enlargements corresponding to the goitrous neck. It is certain that in the ordinary minor forms of goitre, which are not accompanied with symptoms either of hyperthyroidism or hypothyroidism, the other endocrine glands much vary to maintain the physiological balance. We speak of certain symptoms as being hyperthyroid or hypothyroid because similar symptoms can be produced by the exhibition of thyroid extract or by removal of the thyroid respectively, but it is certain that these symptoms are of composite causation, in

which probably all the endocrine glands have some say. If thyroid extract in comparatively large doses is given to a normal, the symptoms of hyperthyroidism can be produced, but these are short-lived and even if the exhibition continues, so long as the endocrine ring is healthy, they will subside. It is important to remember that in dealing with thyroid conditions we are not dealing with a local swelling or an isolated physiological phenomenon, but with the whole endocrine function.

Shortly after the special thyroid clinic in Swindon was established, an attempt was made to prevent the occurrence of goitre in on-coming children. The proposition was that endemic thyroid prevalence was due to insufficient iodine intake, particularly during early childhood, and that the usual source of iodine in the community was fresh vegetables, chiefly those of the order cruciferae, and sea-fish; so an extensive campaign was entered upon to modify the diet usually given to young children, especially toddlers, so as to include the substances rich in iodine. If the premise was correct and the campaign successful, it should result in a material diminution of the percentage of children found with enlarged thyroid. In the five years 1921 to 1925 there were 424 cases of enlarged thyroid treated at the clinic, or roughly 80 new cases per annum. In 1926 the number was 60, in 1927 it was 11, in 1928 it was 25, in 1929 23, and in 1930 it was 51. The increase in the last year will be referred to later. Taking the broad figures, that in the five years before the campaign there were 424 cases and in the five years after the campaign the number was 172, we get some reason to believe that the original thesis was correct. Moreover, the cases found at medical inspection during the 10 years were as follows:—

ELEMENTARY EDUCATION (Elementary Schools):

Year.	Total number of children Inspected.		Total number of children with enlarged thyroid.		Per cent.
1921	...	2184	...	57	2.61
1922	...	2673	...	91	3.40
1923	...	2362	...	166	7.02
1924	...	2491	...	114	4.57
1925	...	3070	...	66	2.15
1926	...	2457	...	33	1.34
1927	...	3198	...	15	0.46
1928	...	3833	...	25	0.66
1929	...	2067	...	22	1.06
1930	...	3126	...	42	1.34

HIGHER EDUCATION (Secondary Schools):

Year.		Total number of children Inspected.		Total number of children with enlarged thyroid.		Per cent.
1922	...	377	...	38	...	10.08
1923	...	203	...	38	...	18.72
1924	...	410	...	28	...	6.83
1925	...	422	...	51	...	12.09
1926	...	284	...	4	...	1.41
1927	...	776	...	8	...	1.03
1928	...	169	...	4	...	2.37
1929	...	635	...	14	...	2.21
1930	...	902	...	34	...	3.77

The following Table shows the number of thyroid cases arranged according to the year of birth of the children. This Table is similar to the table given in 1925, but is brought up-to-date:—

TABLE SHOWING THE YEAR OF BIRTH OF CHILDREN WITH ENLARGED THYROID.

No. of Births	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	Total	T'tals
O.																						
B.	1472	1469	1477	1355	1198	7	2	1	1	4	2	2	..	..	..	..	..	..	..	..	26	86
G.	..	..	2	2	11	15	7	3	6	6	2	3	1	1	..	..	..	..	1	..	60	
S.																						
B.	..	..	2	5	8	7	7	6	4	6	3	2	..	1	..	2	..	..	..	..	53	226
G.	1	2	13	20	15	16	20	21	11	9	15	6	7	2	4	4	4	..	2	1	173	
H.																						
B.	..	..	4	13	11	10	2	..	5	2	..	1	..	..	..	..	..	..	..	..	48	238
G.	5	4	8	44	39	29	9	12	12	8	7	5	2	..	1	2	1	1	1	..	190	
I.																						
B.	..	..	..	1	..	1	1	..	..	..	..	..	1	..	..	..	..	..	..	..	4	12
G.	..	..	..	..	..	..	1	..	3	1	1	1	..	..	..	..	1	..	..	..	8	
E.																						
B.	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	2	25
G.	..	3	2	4	4	4	1	..	..	2	2	..	..	1	..	..	..	..	..	..	23	
L.																						
B.	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	9
G.	..	..	..	..	2	..	..	2	1	..	2	..	..	..	..	..	..	1	..	..	8	
Totals																						
B.	..	..	8	19	26	25	12	7	10	12	6	5	1	1	..	2	..	..	..	..	134	596
G.	6	9	25	70	71	64	38	38	33	26	29	15	10	4	5	6	6	2	4	1	462	

The numbers are of those cases which attended the thyroid Clinic and represent about 85% of the total number of thyroid enlargements occurring in Swindon children. The percentage of cases which attend the Clinic has been nearly constant for some years though it shows a tendency to slightly increase. The numbers for the years 1906 to 1908 are grossly imperfect; those for the years 1919 to date are of little value at present, though they will become valuable in the course of years. It will be seen that there has been an almost steady and very satisfactory reduction in the incidence of thyroid enlargement. The letters at the beginning of the ranks have the following significance:—

(o) Enlargement of no particular consequence and without symptoms. (s) Obvious enlargement with few or no symptoms. (h) Obvious enlargement with symptoms of hyperthyroidism. (t) Irregular enlargement with cysts or tumours. (e) Cases of Exophthalmic Goitre. (l) Cases in which the thyroid enlargement is part of a general enlargement of the lymph glands.

The high proportion of cases with hyperthyroidism and the comparatively large number of exophthalmic goitres are noteworthy. It must be remembered that the figures include children from the Secondary Schools of ages up to 20.

TREATMENT.

If thyroid enlargement indicates a deficiency of iodine in the diet, the correct treatment should be to modify the diet to contain more iodine. If thyroid enlargement is due to a septic process calling for an increased supply of thyroid secretion, the treatment should be to cure the septic process if possible, and if not, to remove it and in either case to give a diet with a high iodine content. The arrangement of the diet to contain fair quantities of iodine prevents thyroid enlargement and should cure it when it occurs. The author holds, most emphatically, that in the prevention of endemic goitre, iodine should be given in organic combinations in foodstuffs and not as an artificial product in the shape of iodized water, salts, etc. He is quite satisfied that in goitrous districts the exhibition of small quantities of iodine salts has produced marked improvement, but he submits that better results can be obtained by giving iodine in organic form as it occurs in certain dietetic articles. The objection that he has to using iodine salts for prevention, is that in all cases they are totally absorbed and the body can exercise no selection upon them and, moreover, the inorganic salts are not the iodine-containing substances with which the thyroid normally deals. In addition to these theoretical objections, there is a very practical objection which will be made obvious in the next paragraph.

In the treatment of enlarged thyroid, i.e., in treating children who are individually under inspection, there is little objection to using any compound which may be valuable. In thyroid enlargements of the ordinary kind, we meet with perfect physiological balance, with hypothyroidism, or with hyperthyroidism, and in the same case these three conditions may alternate. For the treatment of thyroid enlargements of various kinds, in addition to the modification of the diet, the following substances have been used: potassium iodide, collosol iodine, thyroid extract, cod liver oil, and para-thyroid extract. In addition to these, a host of other substances, particularly hormonal extracts, have been tried, but no evidence of their utility is forthcoming. The use of iodide of potassium has been practically discontinued and cod liver oil is only given where the thyroid enlargement is associated with general enlargement of the lymph glands and lymphocytosis, so that the treatment for the ordinary varieties is simplified down to the use of the three substances, collosol iodine, thyroid extract, and para-thyroid extract. It may be said of the last that its action is extremely uncertain. There is a suspicion that most of the para-thyroid which is obtainable is mixed with thyroid to a varying extent and until we can obtain a purer extract of para-thyroid we cannot hope to find it very useful. If iodine in any form, but particularly in the form of thyroid extract, is given to cases of enlarged thyroid during that part of the monthly cycle when the thyroid is normally increasing, it produces a

gradual diminution of the gland without any disturbance of the physiological balance; but during that part of the cycle when the gland is shrinking, the exhibition of iodine will produce symptoms of hyperthyroidism, and, if it is pushed, the symptoms of exophthalmic goitre. The treatment of goitre by iodine compounds gives very excellent results if the exhibition is tuned to the physiological activity of the gland, but to give it without paying attention to the monthly rhythm may do good in many cases, but is disastrous in others.

Mere enlargement of the thyroid gland is not a disease, but a physiological response to a difficult environment. What may we call disease of the thyroid gland? How is it produced? Hypothyroidism seems to be due to marked diminution in the iodine intake, so marked that the thyroid either atrophies as it does in cretinism, or that no physiological enlargement of the gland can gather sufficient for the body's purposes, as occurs in goitre with persistent hypothyroidism. Theoretically, the obvious treatment of hypothyroidism is the administration of thyroid extract and, in practice, this is the ordinary treatment and is successful. The other form of thyroid disease, namely hyperthyroidism and exophthalmic goitre, can be produced temporarily in cases of enlarged thyroid by the injudicious administration of iodine when the gland is shrinking as it does normally just before ovulation. In the clinic at Swindon we see, not unfrequently, children with exophthalmic goitre in its early stages. These are generally curable but are apt to relapse. Some of the cases which have been watched for seven to nine years, through adolescence into maturity, have, on many occasions, developed the symptoms of exophthalmic goitre which so far have always yielded to treatment. It is not the purpose of these short notes to enter into the pathology of exophthalmic goitre except to draw attention, as we have done, to the fact that the disease can be produced by the injudicious use of remedies to relieve thyroid enlargement. We have said, and we again insist, that the thyroid gland is part of a complex system. The connection between thyroid and ovarian function is particularly close for there appears to be direct correspondence between the monthly cycles of the two glands, so the increased discharge of thyroid secretion which can be proved clinically to be connected with rapid diminution in size of the gland doubtless plays a great part in balancing the physiological explosion occasioned by the rupture of the graafian follicle.

In view of what has been said, the combination of enlargement of the thyroid with symptoms of hyperthyroidism, very common in Swindon, is a little puzzling. This combination is rarely observed in children before puberty. The explanation that we gave in 1925 wears well on further experience and is worth repeating. Poverty of iodine intake in the early years of infancy

causes the thyroid to enlarge. If this poverty is continued, or if severe, and not treated, it becomes persistent and at puberty or afterwards, when the child's diet generally contains a reasonable amount of iodine, the enlarged thyroid over-secretes during the negative phase of the monthly cycle.

Correspondence between clinical phenomena and histological changes in the thyroid gland has not been obtained up to the present, but from reading the accounts of those who have specialised in histology of the thyroid, this lack of correspondence is what might have been expected; for most of the research, at all events as regards the human subject, has been made on cases that have died from thyroid disease or on glands that have been removed at operation.

The material upon which the forthcoming remarks are based has not yet been fully analysed, so we are not prepared at present to bring the tables, published in 1925, up-to-date, but it is hoped to do this very shortly.

D.B.

APPENDIX V.

In the Annual Report for last year certain statements were made regarding the cytology of the blood in childhood. Amongst these remarks were the following:—

(1). It was found that children with a high lymph cell count in the blood stood minor operative treatment very badly, particularly if the operative treatment was inseparable from the flooding of the body with toxins from septic foci.

(2). The examination of the blood in children tells us the beginning of the leukaemias and anaemias; it helps us to estimate the probabilities of appendicitis, of tonsillar enlargements, of awakening activity in tuberculosis; to appreciate the course, prognosis and indications for treatment of acute and chronic infections and the advisability or otherwise of operative measures not needed urgently to avert death.

Thirty years study of the cytology of the blood in childhood has led to the appreciation of certain definite danger signals, particularly in connection with the disease of the lymphatic system, and it would seem that the time has come to place before the profession the results of the experience gained. Our grandfathers spoke of a condition that they called "Struma" or the "Strumous Diathesis." This condition covered a great number of pathological states, one of which was tuberculosis of the lymphatic system. After Koch had discovered the tubercule germ the term "Struma" gradually became obsolete, as it was considered that it was really synonymous with tuberculous adenitis; but further experience shewed that this was too sweeping and that there were other conditions besides tuberculosis which had been included in the strumous diathesis. Another term then came into fairly common use, namely, "status lymphaticus." Those who used this term originally did not give it any very definite meaning, but used it as a convenient expression to cover enlargements of the lymph glands and certain accessory glands, accompanied with increase of the lymphocytes in the blood. They recognised that children in this condition stood disease and operative interference badly and were very likely to die from comparatively trivial injuries. The rise in our knowledge of vitamins explained, to some extent, the nature of this condition and, perhaps, at the present day, what our grandfathers called strumous diathesis corresponds to in great part to vitamin deficiency, particularly of "A" and "B." Meanwhile status lymphaticus had become exalted into a definite disease with what, in topical slang, is known as a "syndrome," but within the last few months this idol has fallen and the belief expressed that status lymphaticus is a myth. We shall not enter into this dis-

cussion except to point out that if status lymphaticus is a myth, the sudden calamities which it was supposed to cause are most unpleasantly real and in many cases are connected with the phenomena of lymphism or struma.

In these days the operation for the removal of tonsils and adenoids is an every-day occurrence. If certain authorities had their way, it would be extended to some 90% of children, and even those who reject the operation wherever possible, have to admit that in some 5% at least of all children this treatment is desirable. This operation is performed for a condition which is not, in itself, immediately dangerous and any calamity which occurs during or immediately after its performance is a matter to give us serious concern. Our experience in the blood of children suggests that when the total white cell count exceeds 6,000 per c.m.m. and the percentage of polymorphonuclear exceeds 50% of the total, operation is without danger and that healing will occur after it without complications; but that when the number of leucocytes sinks below 3,000 per c.m.m. and the lymphocytes exceed them numerically, the operation is not free from danger, and may be followed by complications which may prove fatal. Being confident of the general correctness of this statement I have declined to sanction the operation for tonsils and adenoids until the blood has been examined and passed as satisfactory. For the past ten years that this procedure has been followed, no operation sanctioned by me for tonsils and adenoids has given rise to anxiety, either at the time of operation or subsequently. During the same period there have been a certain number of tonsil and adenoid operations, not done under our scheme, which have been followed by complications, two at least of which were fatal. Unfortunately there is no information as to the blood condition of these children before the operation was undertaken and as we should not allow an operation in a case where the blood condition suggested to us that there might be danger, we not only cannot prove our point by evidence which is scientifically acceptable, but must decline to do the necessary research work with controls which is necessary to prove it. Dr. King, Assistant Medical Officer, has examined the bloods of most of the cases in which removal of tonsils and adenoids was desirable and the information that she gives below will make clear what blood states we consider to be safe and which unsafe for operation, and also the results of treatment for altering the unsafe into the safe condition.

D.B.

This investigation of the blood conditions of children who have been referred for the removal of adenoids and enlarged tonsils, has covered a period of five and a half years, and is still proceeding.

The blood picture of each case was carefully scrutinised. If it were normal, operation was advised. If certain abnormalities were noted, operation was deferred and the child was put on yeast to be taken daily, as a routine treatment. After at least a month, another blood count was done, and if the condition was either normal or sufficiently improved, operation was recommended. Otherwise another interval was suggested, during which the yeast was continued, and so on. It will be noted that in more than one case, several counts were considered to be necessary.

For the purposes of this report, twenty typical cases in each group were selected. These shew the blood picture in detail, and indicate the reasons for postponement of the operation, and for subsequent permission.

In considering the question as to whether each case should proceed for operation, certain factors were noted. If there was a high lymphocytosis, the case was always referred back. If, however, there was a slight excess, and a sufficiency of eosinophile cells, with a fairly normal total number of leucocytes, the case would be allowed to proceed. Any marked case of leucopenia was also prohibited from operation. The general condition of the child was always carefully considered, and if operation was urgently needed, it was recommended unless certain limits in the blood picture were exceeded.

Total number of counts	{	Boys	125	}	Total:	304
		Girls	179			
Bloods counted once only	...	...	...	...	...	222
Bloods recounted	...	...	...	...	...	82
Operations performed	{	Boys	109	}	Total:	209
		Girls	100			

Total age groups :

Age	Cases
6 months ...	1
2 — 3 years ...	6
3 — 4 years ...	20
4 — 5 years ...	36
5 — 6 years ...	55

Total age groups (continued) :

Age			Cases
6 — 7 years	...	...	39
7 — 8 years	...	...	20
8 — 9 years	...	...	31
9 —10 years	...	...	23
10 —11 years	...	...	14
11 —12 years	...	...	15
12 —13 years	...	...	23
13 —14 years	...	...	15
14 —15 years	...	...	6

Red Cells, in millions, of bloods counted once only :

			Cases
3 — 4	...	...	3
4 — 5	...	...	23
5 — 6	...	...	63
6 — 7	...	...	103
7 — 8	...	...	27
over 8	...	...	2
Haemolysed	...	...	1

White Cells, in thousands, of bloods counted once only :

			Cases
5 — 6	...	...	6
6 — 7	...	...	18
7 — 8	...	...	28
8 — 9	...	...	46
9 —10	...	...	30
10 —11	...	...	23
11 —12	...	...	21
12 —13	...	...	14
13 —14	...	...	14
14 —15	...	...	9
15 —17	...	...	4
17 —18	...	...	3
18 —20	...	...	1
20 —21	...	...	1
21 —23	...	...	1
23 —27	...	...	1
27 —31	...	...	1
over 31	...	...	1

Red Cells, in millions, of bloods recounted:

				Cases
3 — 4	...	...	...	1
4 — 5	...	...	...	6
5 — 6	...	...	...	32
6 — 7	...	...	...	28
7 — 8	...	...	...	12
over 8	...	...	...	1
omitted	...	...	...	1
Haemolysed	...	...	...	1

White Cells, in thousands, of bloods recounted:

				Cases
3 — 4	...	...	...	2
4 — 5	...	...	...	2
5 — 6	...	...	...	7
6 — 7	...	...	...	9
7 — 8	...	...	...	13
8 — 9	...	...	...	7
9 — 10	...	...	...	10
10 — 11	...	...	...	12
11 — 12	...	...	...	9
12 — 13	...	...	...	2
13 — 14	...	...	...	1
14 — 15	...	...	...	3
15 — 16	...	...	...	1
16 — 32	...	...	...	3
omitted	...	...	...	1

EOSINOPHILIA. Bloods containing more than 3% of eosinophiles:

In bloods counted once only: counts varying from 4—9%

Number of cases ... 56

Percentage ... 25

In bloods recounted: counts varying from 4—12%

Number of cases ... 28

Percentage ... 34

Cases postponed once.	Operation after 2nd blood	
count ... ..	...	33 cases
Cases postponed twice.	Operation after 3rd blood	
count ... ..	...	2 cases
Cases postponed three times.	Operation after 4th	
blood count ... ..	...	1 case
Operation refused	...	5 cases
No second attendance	...	1 case
No information	...	1 case

V. REDMAN KING,

March, 1931.

Assistant School Medical Officer.

20 TYPICAL CASES REFERRED FOR OPERATION AFTER FIRST BLOOD COUNT.

Case No.	Red Corpuscles.	White Corpuscles.	Polymorph. Leucocytes.	Small Lymphocytes.	Large Lymphocytes.	Hyalines.	Eosinophiles.	Condition of patient.	Age.	Sex.
1	5,350,000	12,000	66%	27%	1%	25%	3%	Mouth breather; snores, frequent colds; glands and tonsils enlarged.	3 3/12	M
2	5,490,000	7,900	51	46.5	1	...	1	Heavy, noisy breathing.	3 11/12	M
3	3,940,000	13,600	53.5	35	0.5	1.5	9.5	Severe nasal obstruction; earache.	4 6/12	M
4	6,070,000	14,000	44.5	47	1	3	4.5	Nasal and throat obstruction. Nose bleeding.	4 11/12	F
5	6,160,000	13,500	61	26.5	3.5	3.5	5	Enormous tonsils. Rheumatic pains.	5 4/12	M
6	3,830,000	10,600	45.5	45	3	3	3.5	Snores; mouth breather; frequent colds.	5 1/12	F
7	6,540,000	8,300	62	27.5	2	3	3.5	Snores; mouth breather; tonsils considerably enlarged; otorrhoea.	5 1/12	F

20 TYPICAL CASES REFERRED FOR OPERATION AFTER FIRST BLOOD COUNT.—(Continued).

Case No.	Red Corpuscles.	White Corpuscles.	Polymorph. Leucocytes.	Small Lymphocytes.	Large Lymphocytes.	Hyalines.	Eosinophiles.	Condition of patient.	Age.	Sex.
8	6,990,000	15,600	71%	25%	...	3%	1%	Earache; mouth breather; snores; tonsils considerably enlarged. Glands enlarged.	6 9/12	M
9	5,840,000	9,300	41	49.5	2	...	7	Sore throats; thick speech; snores; deaf.	6 1/12	F
	4,990,000	11,000	59	33	2	4	2	Snores; mouth breather; glands considerably enlarged; tonsils and adenoids enlarged.	6 9/12	F
11	6,110,000	14,600	64	26	2	3	5	Tonsils much enlarged; breathing severely obstructed; voice thick.	7 1/12	M
12	5,910,000	6,100	50	42	3	1	1.5	Deafness; pronounced adenoids.	7 2/12	F
13	6,030,000	6,400	52	39.5	2	1.5	5	Eye trouble; poor general health. Glands enlarged; tonsils considerably enlarged.	8	M

20 TYPICAL CASES REFERRED FOR OPERATION AFTER FIRST BLOOD COUNT.—(Continued).

Case No.	Red Corpuscles.	White Corpuscles.	Polymorph. Leucocytes.	Small Lymphocytes.	Large Lymphocytes.	Hyalines.	Eosinophiles.	Condition of patient.	Age.	Sex.
14	6,510,000	5,700	57%	34%	1.5%	1%	5.5%	Mouth breather; pronounced adenoids.	9	F
15	6,270,000	7,500	46	44	1	4	4.5	Mouth breather; earache and deafness. Adenoids and glands enlarged. Tonsils considerably enlarged.	10 7/12	F
16	6,100,000	6,800	44	42	6	3.5	3.5	Severe adenoids.	11 5/12	M
17	5,830,000	6,900	65	23	0.5	2	9.5	Earache and headache. Tonsillitis attacks. Tonsils and adenoids moderately enlarged.	12 10/12	F
18	5,090,000	7,900	50	47.5	...	...	2.5	Snore; mouth breather; thick speech; many colds; glands and tonsils enlarged.	13	M
19	6,290,000	6,900	57.5	32	1	3.5	3	Enlarged tonsils; tonsillitis; noisy breathing.	12 6/12	M
20	6,360,000	7,300	48	39	3	5	2	Mouth breather; enlarged tonsils.	15	F

20 CASES OF POSTPONED OPERATIONS WITH REASONS FOR SUBSEQUENT PERMISSION

Case No.	Red Corpuscles	White Corpuscles	Polymorph. Leucocytes.	Small Lymphocytes.	Large Lymphocytes.	Hyalines.	Eosinophiles.	Condition of Patient.	Reason for postponement.	Reason for permission.	Age.	Sex.
1	5,664,000	4,300	% 25	% 54	% 13	% 2	% 6	Tonsils and adenoids enlarged. Debility. Frequent colds.	Excess of lymphocytes. Leucopenia.		4	M
	6,690,000	3,300	41	47	4	2	3	do.	do.		4 10/12	
	5,730,000	7,300	16	70	6.5	3.5	4	Recent diphtheria.	Still excess of lymphocytes.		5 5/12	
	6,430,000	7,900	47	47	0.5	1.5	4	Tonsils considerably enlarged.		Leucocytes and small lymphocytes level. Sufficient eosinophiles.	8 7/12	
2	6,520,000	7,300	36	46	2	4	7	Glands and tonsils enlarged.	Lymphocytosis.		11 6/12	M
	6,240,000	10,900	55	30.5	4.5	3.5	4.5	No change.		Increase of white cells. Increase of Leucocytes.	11 7/12	

20 CASES OF POSTPONED OPERATIONS WITH REASONS FOR SUBSEQUENT PERMISSION —(Continued).

Case No.	Red Corpuscles.	White Corpuscles.	Polymorph. Leucocytes.	Small Lymphocytes.	Large Lymphocytes.	Hyalines.	Eosinophiles.	Condition of patient.	Reason for postponement.	Reason for permission.	Age.	Sex.
3	7,390,000	8,100	39.5%	49%	1.5%	2%	3.5%	Earache; mouth- breather. Ton- sils and ade- noids enlarged.	Lymphocytosis.	Increase of leu- cocytes.	7 2/12	F
4	5,980,000	6,000	51	41	2.5	3.5	1.5	Headache. Sep- tic throats.	Excess of lym- phocytes.	Increase of leu- cocytes	7 7/12	F
5	6,464,000	10,400	39	47	5	0	7	Glands and ton- sils enlarged.	Excess of lym- phocytes.	Increase of leu- cocytes	5	F
	6,380,000	10,100	57	35	1.5	1.5	5	do.			6	
	4,800,000	7,200	36	53.5	3	1	4.5	Otorrhoea; Deafness; ton- sillitis.	Excess of lym- phocytes.		6	M
	5,510,000	11,100	53	42.5	2	1.5	2	Health improv- ed.		Increase in red cells & white. Increase of leu- cocytes.	6 2/12	

20 CASES OF POSTPONED OPERATIONS WITH REASONS FOR SUBSEQUENT PERMISSION —(Continued).

Case No.	Red Corpuscles.	White Corpuscles.	Polymorph. Leucocytes.	Small Lymphocytes.	Large Lymphocytes.	Hyalines.	Eosinophiles.	Condition of patient.	Reason for postponement.	Reason for permission.	Age.	Sex.
6	5,340,000	6,000	39.5 %	49.5 %	1.5 %	6 %	3.5 %	Marked adenoids.	Excess of lymphocytes.		10 1/12	F
	5,920,000	5,500	60	35	—	3	2			Increase of small lymphocytes.	10 3/12	
7	7,170,000	14,700	35	53.5	3.5	5	3	Frequent colds. Mouth breather. Throat trouble. Adenoids considerably enlarged. Tonsils and glands enlarged.	Excess of lymphocytes.		4 3/12	F
	7,350,000	13,400	59.5	33.5	4.5	1	1.5			Increase of leucocytes.	4 5/12	

20 CASES OF POSTPONED OPERATIONS WITH REASONS FOR SUBSEQUENT PERMISSION. —(Continued).

Case No.	Red Corpuscles.	White Corpuscles.	Polymorph. Leucocytes.	Small Lymphocytes.	Large Lymphocytes.	Hyalines.	Eosinophiles.	Condition of patient.	Reason for postponement.	Reason for permission.	Age.	Sex.
8	6,400,000	12,900	% 34.5	% 57.5	% 2.5	% 3.5	% 1	Earache; throat trouble.	Excess of lym- phocytes.	Increase of leu- cocytes and eosinophiles.	4 11/12	M
	6,000,000	16,200	46	46.5	1	1	4				5	
9	5,240,000	11,600	36	61	0.5	1	1.5	Severe adenoids.	Excess of lym- phocytes.	Increase of leu- cocytes.	3 10/12	F
	5,640,000	14,300	47.5	37.5	9.5	3.5	1	Otorrhoea. De- bility.			4 3/12	
10	6,210,000	10,000	33.5	53	8	2.5	2	Glands and ad- enoids enlarged Tonsils consid- erably enlarged.	Excess of lym- phocytes.	Slight increase of leucocytes. Increase of eos- inophiles.	9 2/12	M
	5,750,000	9,800	39.5	51.5	2	1	5				9 3/12	

20 CASES OF POSTPONED OPERATIONS WITH REASONS FOR SUBSEQUENT PERMISSION

—(Continued).

Case No	Red Corpuscles.	White Corpuscles.	Polymorph. Leucocytes.	Small Lymphocytes.	Large Lymphocytes.	Hyalines.	Eosinophiles.	Condition of Patient.	Reason for Postponement.	Reason for Permission.	Age.	Sex.
11	4,880,000	20,000	41	57	1	0	% 1	Marked adenoids. Glands and Tonsils enlarged.	Leucocytosis. Excess of lymphocytes,	Reduction in total leucocytosis and lymphocytes.	5	M
	5,810,000	10,600	46	43	3	6	1.5				8 2/12	
12	5,270,000	7,300	38.5	52.5	3	1	3.5	Marked adenoids. Glands enlarged.	Excess of lymphocytes.	Increase in leucocytes and eosinophiles.	3 10/12	M
	6,050,000	11,300	42.5	45	3	4.5	4				4 2/12	

20 CASES OF POSTPONED OPERATIONS WITH REASONS FOR SUBSEQUENT PERMISSION —(Continued).

Case No.	Red Corpuscles.	White Corpuscles.	Polymorph. Leucocytes.	Small Lymphocytes.	Large Lymphocytes.	Myelines.	Eosinophiles.	Condition of patient.	Reason for postponement.	Reason for permission.	Age.	Sex.
13	7,140,000	8,100	% 43	% 48	% 4	% 2	% 3	Poor physique. Marked adenoids.	Excess of lymphocytes.	Decrease of small lymphocytes. General health improved.	5 11/12	M
14	5,140,000	7,700	43	41	6	5	3					
	5,370,000	6,800	43	45	—	—	7	Severe adenoids. Tonsils considerably enlarged.	Leucopenia. Some excess of lymphocytes.		5 1/12	M
	5,520,000	12,400	61.5	33.5	1.5	1.5	2			Increase of leucocytes.	5 4/12	
15	6,350,000	11,500	37.5	47.5	1.5	1	9	Marked adenoids. Frequent colds.	Excess of lymphocytes.		4 7/12	
	5,920,000	10,500	42.5	47	3	0.5	6.5			Increase of leucocytes and eosinophiles.	4 10/12	

20 CASES OF POSTPONED OPERATIONS WITH REASONS FOR SUBSEQUENT PERMISSION —(Continued).

Case No.	Red Corpuscles.	White Corpuscles.	Polymorph. Leucocytes.	Small Lymphocytes.	Large Lymphocytes.	Hyalines.	Eosinophiles.	Condition of patient.	Reason for postponement.	Reason for permission.	Age.	Sex.
16	6,190,000	10,600	43	% 51.5	% 1.5	% 2.5	% 0.5	Recent tonsill- itis. Tonsils considerably enlarged.	Excess of lym- phocytes.		12	F
	7,010,000	9,000	58	34.5	3.5	3.5	—	General health improved.		Increase of leu- cocytes.	12	
17	5,820,000	11,600	39	53	3.5	3	1.5	Adenoids en- larged. Throat trouble. Ton- sils ; consider- ably enlarged.	Exces : of lym- phocytes.		3 3/12	M
	5,880,000	7,200	49.5	44	1.5	2	3	General health improved.		Increase of leu- cocytes and eosinophiles.		

20 CASES OF POSTPONED OPERATIONS WITH REASONS FOR SUBSEQUENT PERMISSION —(Continued).

Case No.	Red Corpuscles.	White Corpuscles.	Polymorph. Leucocytes.	Small Lymphocytes.	Large Lymphocytes.	Hyalines.	Eosinophiles.	Condition of patient.	Reason for postponement.	Reason for permission.	Age.	Sex.
18	6,890,000	6,100	% 41	% 56.5	% —	% 0.5	% 2	Frequent colds. E a r a c h e . Mouth-breath- er; snores; tonsils enlarg- ed.	Leucopenia. Excess of lym- phocytes.		6 5/12	M
	7,240,000	8,200	40.5	48.5	7	3	1		Slight improve- ment, but not enough.		6 7/12	
	7,080,000	11,500	54.5	35	3.5	6	0.5			Slight leucocy- tosis. Increase of leucocytes. Referred for operation, but this not per- formed.	6 8/12	

20 CASES OF POSTPONED OPERATIONS WITH REASONS FOR SUBSEQUENT PERMISSION
 —(Continued).

Case No.	Red Corpuscles.	White Corpuscles.	Polymorph. Leucocytes.	Small Lymphocytes.	Large Lymphocytes.	Hyalines.	Eosinophiles.	Condition of patient.	Reason for postponement.	Reason for permission.	Age.	Sex.
19	4,544,000	32,000	% 13	% 62	% 15	% 2	% 5	Chronic acholia following epi- demic diarr- hoea.	High leucocy- tosis and rela- tive lymphocy- tosis.		6/12	M
	5,408,000	10,200	37	49	8	2	4	Asthma.	Improve ment not sufficient.		2	
	3,910,000	8,800	37	44.5	6.5	5	7		Diminution in red cells. Ex- cessive lym- phocytes.		5 9/12	
	6,460,000	6,800	35	45	5.5	4	10	Asthma; ade- noids; nasal spur; enlarged turbinates.		High eosino- philia.	6 1/12	

20 CASES OF POSTPONED OPERATIONS WITH REASONS FOR SUBSEQUENT PERMISSION
 —(Continued).

Case No.	Red Corpuscles.	White Corpuscles.	Polymorph. Leucocytes.	Small Lymphocytes.	Large Lymphocytes.	Hyalines.	Eosinophiles.	Condition of patient.	Reason for postponement.	Reason for permission.	Age.	Sex.
20	4,910,000	3,700	% 68.5	% 26.5	% 1.5	% 2.5	% —	Enlarged glands and tonsils. In- fected crypts.	Leucopenia.		5 2/12	M
	6,880,000	9,600	% 68.5	% 23.5	1	% 6.5	0.5	Ear trouble.		Increased total of white cor- puscles.	7 6/12	

ELEMENTARY EDUCATION.

Statistical Tables.

TABLE I.—Return of Medical Inspections.**A.—ROUTINE MEDICAL INSPECTIONS.**

Number of Code Group Inspections :

Entrants	...	...	...	...	...	1254
Intermediates		...	...	...	...	1140
Leavers	...	...	...	...	...	732
<hr/>						
Total	...	...	...	...	...	3126
<hr/>						

Number of other Routine Inspections ... Nil

B.—OTHER INSPECTIONS.

Number of Special Inspections	...	...	3007
Number of Re-Inspections	...	...	6344
<hr/>			
Total	...	...	9351
<hr/>			

**TABLE II.—A.—Return of Defects found by Medical Inspection
in the Year ended 31st December, 1930.**

DEFECT OR DISEASE.	ROUTINE INSPECTIONS.		SPECIAL INSPECTIONS.	
	No. of Defects.		No. of Defects.	
	Requiring Treatment.	Requiring to be kept under observation, but <i>not</i> requiring Treatment.	Requiring Treatment.	Requiring to be kept under observations, but <i>not</i> requiring Treatment.
(1)	(2)	(3)	(4)	(5)
Malnutrition	10	2	15	3
Uncleanliness : (See Table IV., Group V.)	...	...	...	...
<i>Skin—</i>				
Ringworm :				
Scalp	2	...	16	...
Body	3	...	11	...
Scabies	1	...	10	...
Impetigo	5	...	103	...
Other Diseases (Non-Tuberculous)...	74	6	536	4
<i>Eye—</i>				
Blepharitis	63	1	39	...
Conjunctivitis	6	...	36	...
Keratitis ... ..	...	...	3	...
Corneal Opacities	4	...	3	...
Defective Vision (excluding Squint)	198	...	80	26
Squint	26	4	11	...
Other Conditions	13	3	140	3
<i>Ear—</i>				
Defective Hearing	42	7	32	8
Otitis Media ... ..	...	...	151	48
Other Ear Diseases	165	17	269	26
<i>Nose and Throat—</i>				
Enlarged Tonsils only	68	142	159	93
Adenoids only	3	4	15	3
Enlarged Tonsils and Adenoids	5	15	31	4
Other Conditions	69	18	154	13
Enlarged Cervical and Sub-maxillary Glands (Non-Tuberculous)	31	43	122	46
Enlarged Thyroid Gland	39	3	45	1
Defective Speech	3	2	4	...

TABLE II. A.—(Continued).

DEFECT OR DISEASE.	ROUTINE INSPECTIONS.		SPECIAL INSPECTIONS.	
	No. of Defects.		No. of Defects.	
	Requiring Treatment.	Requiring to be kept under observation, but <i>not</i> requiring Treatment.	Requiring Treatment.	Requiring to be kept under observation, but <i>not</i> requiring Treatment.
(1)	(2)	(3)	(4)	(5)
<i>Teeth</i> —Dental Diseases	575	...	14	...
<i>Heart and Circulation</i> —				
Heart Disease:				
Organic	1	6	1	3
Functional	1	54	2	22
Anaemia	7	3	9	5
<i>Lungs</i> —				
Bronchitis	21	3	3	1
Other Non-Tuberculous Diseases ...	13	37	48	19
<i>Tuberculosis</i> —				
Pulmonary :				
Definite ... ..	...	...	1	1
Suspected	1	1	1	1
Non-Pulmonary :				
Glands ... ..	...	...	2	...
Spine ... ..	...	...	1	1
Hip ... ..	...	1	...	...
Other Bones and Joints ... ..	...	...	...	...
Skin ... ..	...	...	...	...
Other Forms	1	1	...	...
<i>Nervous System</i> —				
Epilepsy	3	2	4	2
Chorea	3	2	10	5
Other Conditions	20	15	25	27
<i>Deformities</i> —				
Rickets	13	6	3	...
Spinal Curvature	14	12	8	13
Other Forms	11	35	17	9
Other Defects and Diseases	78	63	696	52

B. Number of INDIVIDUAL CHILDREN found at ROUTINE Medical Inspection to Require Treatment (Excluding Uncleanliness and Dental Diseases).

GROUP. (1)	Number of Children.		Percentage of Children found to require treatment. (4)
	Inspected (2)	Found to require treat- ment (3)	
CODE GROUPS :			
Entrants	1254	263	20.9
Intermediates	1140	301	26.4
Leavers	732	190	25.9
Total (Code Groups)	3126	754	24.1
Other Routine Inspections	—	—	—

TABLE III.—Return of all Exceptional Children in the Area.

			Boys	Girls	Total
Blind (including partially blind).	(i) Suitable for training in a School or Class for the totally blind.	Attending Certified Schools or Classes for the Blind ...	2	1	3
		Attending Public Elementary Schools ...	...	...	...
		At other Institutions ...	...	...	...
		At no School or Institution ...	...	1	1
	(ii) Suitable for training in a School or Class for the partially blind.	Attending Certified Schools or Classes for the Blind ...	...	...	...
		Attending Public Elementary Schools ...	1	1	2
		At other Institutions ...	...	...	...
		At no School or Institution ...	1	...	1
Deaf (including deaf and dumb and partially deaf).	(i) Suitable for training in a School or Class for the totally deaf or deaf and dumb.	Attending Certified Schools or Classes for the Deaf ...	4	1	5
		Attending Public Elementary Schools ...	...	...	...
		At other Institutions ...	...	...	...
		At no School or Institution ...	...	...	...
	(ii) Suitable for training in a School or Class for the partially deaf.	Attending Certified Schools or Classes for the Deaf ...	...	...	...
		Attending Public Elementary Schools ...	3	1	4
		At other Institutions ...	...	...	...
		At no School or Institution ...	...	...	...
Mentally Defective.	Feeble-minded (cases not notifiable to the Local Control Authority).	Attending Certified Schools for Mentally Defective Children ...	12	3	15
		Attending Public Elementary Schools ...	7	2	9
		At other Institutions ...	...	...	...
		At no School or Institution ...	7	11	18
Epileptics.	Suffering from severe epilepsy	Attending Certified Special Schools for Epileptics ...	1	...	1
		In Institutions other than Certified Special Schools ...	...	1	1
		Attending Public Elementary Schools ...	...	...	...
		At no School or Institution ...	2	...	2
	Suffering from epilepsy which is not severe.	Attending Public Elementary Schools ...	8	3	11
		At no School or Institution ...	...	...	...

TABLE III.—(Continued).

			Boys	Girls	Total
Locally Active.	Infectious pulmonary and glandular tuberculosis.	At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board	1	...	1
		At other Institutions ...	...	...	...
		At no School or Institution ...	...	...	...
	Non - infectious but active pulmonary and glandular tuberculosis.	At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board ... ..	...	...	...
		At Certified Residential Open Air Schools ...	...	...	...
		At Certified Day Open Air Schools ... ..	...	...	...
		At Public Elementary Schools	20	7	27
		At no School or Institution ...	...	1	1
	Delicate children (e.g., pre-or latent tuberculosis, malnutrition, debility, anæmia, etc.)	At Certified Residential Open Air Schools ... ..	...	...	...
		At Certified Day Open Air Schools ... ..	...	...	...
		At Public Elementary Schools	40	42	83
		At other Institutions ...	...	...	...
		At no School or Institution ...	...	...	...
	Active non-pulmonary tuberculosis.	At Sanatoria or Hospital Schools approved by the Ministry of Health or the Board	3	1	4
		At Public Elementary Schools	6	7	13
		At other Institutions ...	...	...	...
		At no School or Institution ...	...	...	...
Cripple Children (other than those with active tuberculous disease).	At Certified Hospital Schools ... ..	...	...	...
	At Certified Residential Cripple Schools ...	...	2	2	
	At Certified Day Cripple Schools ... ..	...	...	...
	At Public Elementary Schools	13	24	37	
	At other Institutions ...	...	...	...
	At no School or Institution ...	1	3	4	

**Statement of the number of Children notified during the Year
ended 31st December, 1930, by the Local Education Authority
to the Local Mental Deficiency Authority.**

Total number of Children notified—12.

ANALYSIS OF THE ABOVE TOTAL.

DIAGNOSIS.	BOYS.	GIRLS.
1. (i) Children incapable of receiving benefit or further benefit from instruction in a Special School :		
(a) Idiots 	—	1
(b) Imbeciles	3	6
(c) Others 	1	—
(ii) Children unable to be instructed in a Special School without detriment to the interests of other children :		
(a) Moral defectives ...	—	—
(b) Others 	—	—
2. Feeble-minded children notified on leaving a Special School on or before attaining the age of 16 ...	1	—
3. Feeble-minded children notified under Article 3, <i>i.e.</i> , "special circumstances" cases 	—	—
4. Children who in addition to being mentally defective were blind or deaf 	—	—
GRAND TOTAL 	5	7

TABLE IV.—Return of Defects Treated during the Year ended
31st December, 1930.

TREATMENT TABLE.

Group I.—Minor Ailments (excluding Uncleanliness, for which
see Group V).

DISEASE OR DEFECT.	Number of Defects treated, or under treatment during the year.		
	Under the Authority's Scheme.	Otherwise.	Total.
<i>Skin—</i>			
Ringworm—Scalp	31	10	41
Ringworm—Body	9	2	11
Scabies	10	—	10
Impetigo	104	—	104
Other Skin Disease	258	—	258
Minor Eye Defects (External and other, but excluding cases falling in Group II).	216	—	216
Minor Ear Defects	140	—	140
Miscellaneous (e.g., minor injuries, bruises, sores, chilblains, etc.)	1113	8	1121
Total	1881	20	1901

TABLE IV.—(Continued).

Group II.—Defective Vision and Squint (excluding Minor Eye Defects treated as Minor Ailments—Group I).

DEFECT OR DISEASE.	No. of Defects dealt with.			
	Under the Authority's Scheme.	Submitted to refraction by private practitioner or at hospital apart from the Authority's Scheme.	Otherwise	Total.
Errors of Refraction (including Squint)	486	—	—	486
Other Defect or Disease of the Eyes (excluding those recorded in Group I.)	37	—	—	37
Total	523	—	—	523

Total number of children for whom spectacles were prescribed :

(a) Under the Authority's Scheme	...	...	...	332
(b) Otherwise	...	...	...	—

Total number of children who obtained or received spectacles :

(a) Under the Authority's Scheme	...	...	...	284
(b) Otherwise	...	...	...	1

Group III.—Treatment of Defects of Nose and Throat.

NUMBER OF DEFECTS.

Received Operative Treatment.			Received other forms of Treatment.	Total number Treated.
Under the Authority's Scheme, in Clinic or Hospital	By Private Practitioner or Hospital, apart from the Authority's Scheme.	Total.		
127	—	127	170	297

TABLE IV.—(Continued).

Group IV.—Dental Defects.

(1) Number of Children who were:—

(a) Inspected by the Dentist:

	Aged	{	3	76	
			4	262	
			5	498	
			6	597	
			7	766	
			8	647	
Routine	Age Groups	{	9	523	Total
			10	505	4763
			11	290	
			12	269	
			13	188	
			14	135	
			15	7	

Specials	106
----------	-----	-----	-----	-----	-----	-----

Grand Total	4869
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(b) Found to require treatment	3655
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(c) Actually treated	3342
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2) Half days devoted to: { Inspection 49 } Total ... 459
 { Treatment 410 }

3)	Attendances made by children for treatment	6253
----	--	-----	------

4) Fillings	$\left\{ \begin{array}{l} \text{Permanent teeth} \quad 1097 \\ \text{Temporary teeth} \quad 49 \end{array} \right\}$	Total ...	1146
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5) Extractions	{ Permanent teeth 302 Temporary teeth 3650 }	Total ... 3952
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6) Administrations of general anæsthetics for extractions —

7) Other operations	{ Permanent teeth 760	}	Total ... 12481
	{ Temporary teeth 11721		

Group V.—Uncleanliness and Verminous Condition.

(i)	Average number of visits per school made during the year by the School Nurses	9
(ii)	Total number of examinations of children in the Schools by School Nurses	30991
(iii)	Number of individual children found unclean	13831
(iv)	Number of children cleansed under arrangements made by the Local Education Authority	708
(v)	Number of cases in which legal proceedings were taken :	
	(a) Under the Education Act, 1921	Nil
	(b) Under School Attendance Byelaws	Nil

TABLE V.—Return showing Defects Treated at Minor Ailment Clinic, Year ended 31st December, 1930.

Disease or Defect.	No. of Defects treated under Authority's Scheme			Number of Defects Cured	No. of Defects remaining under Treatment.	No of Attendances at Clinic.	No of Consultations.
	From previous Year.	New Cases	Total				
<i>Contagious Skin Diseases—</i>							
Impetigo	3	101	104	103	1	628	277
Scabies ... ..	...	10	10	10	...	40	28
Other Diseases ... ..	...	1	1	1	...	5	5
<i>Non-Contagious Skin—</i>							
Dermatitis ... ..	...	7	7	7	...	19	17
Eczema	1	8	9	8	1	167	130
Seborrhoea ... ..	...	5	5	5	...	10	10
Pityriasis Rosea ... ..	...	3	3	3	...	54	19
Abscesses ... ..	...	9	9	9	...	22	14
Boils ... ..	...	25	25	24	1	152	89
Warts	3	40	43	39	4	312	74
Herpes ... ..	...	16	16	16	...	92	60
Urticaria ... ..	...	5	5	5	...	18	17
Psoriasis ... ..	...	4	4	4	...	30	18
Cellulitis ... ..	...	1	1	1	...	1	1
Intertrigo ... ..	...	1	1	1	...	2	2
Other Diseases	1	44	45	43	2	143	123
<i>Nose, Mouth and Throat Diseases—</i>							
Glands ... ..	...	38	38	38	...	116	95
Rhinitis ... ..	...	2	2	2	...	2	2
Tonsillitis ... ..	...	26	26	26	...	69	51
Other Diseases ... ..	...	74	74	74	...	201	170
<i>Wounds and Injuries—</i>							
Injuries, Grazes, &c. ... ..	...	206	206	206	...	1235	841
Bites and Stings ... ..	...	46	46	46	...	152	127
Burns, Scalds, Cuts, &c. ... ..	...	81	81	80	1	499	341
Septic Sores	1	244	245	238	7	1534	836
Bruises and Sprains ... ..	...	23	23	23	...	77	70
Others ... ..	...	85	85	85	...	403	240
<i>External Eye Diseases—</i>							
Foreign Body ... ..	...	16	16	16	...	45	26
Stye ... ..	...	37	37	37	...	167	142
Blepharitis	3	34	37	37	...	161	124
Conjunctivitis ... ..	...	34	34	33	1	255	196
Phlyctenular Conjunctivitis ... ..	...	1	1	1	...	11	10
Conjunctival Hemorrhage ... ..	...	2	2	2	...	3	3
Glioma ... ..	...	1	1	1	...	2	2
Corneal Ulcer ... ..	...	3	3	2	1	8	8
Strabismus	1	2	3	3	...	3	3
Keratitis ... ..	...	3	3	3	...	24	23
Pink Eye	2	18	20	20	...	114	104
Other Diseases	1	58	59	57	2	116	95

TABLE V.—(Continued).

Disease or Defect.	No. of Defects treated under Authority's Scheme			Num-ber of Def'cts Cured	No. of Defects remain- ing under Treat- ment.	No. of Attend- ances at Clinic.	No. of Consul- tations.
	From pre- vious Year.	New Cases	Total				
<i>Infectious Diseases—</i>							
Measles ... ..	...	7	7	7	...	9	9
Chicken Pox	2	770	72	72	...	91	91
Mumps ... ..	...	9	9	9	...	18	16
Whooping Cough	2	19	21	21	...	36	36
Diphtheria ... ..	...	12	12	12	..	12	12
Scarlet Fever ... ..	...	3	3	3	...	3	3
Influenza ... ..	...	1	1	1	...	1	1
Erysipelas ... ..	...	1	1	1	...	1	1
Rubella ... ..	...	1	1	1	...	1	1
<i>General—</i>							
Ill-health, &c.	3	241	244	244	...	420	362
<hr/>							
TOTALS	23	1678	1701	1680	21	7484	4925

Total number of Children Treated ... 1265

TABLE VI.—TREATMENT OF DEFECTS OF NOSE, THROAT AND EAR AT SPECIAL CLINIC.

Number of cases referred for treatment	Number of Consultations	Number of attendances for treatment	DEFECTS.											Myringitis, Diseases and Perforation of Membranes
			Tonsils considerably enlarged	Tonsils enlarged	Tonsils and Adenoids	Adenoids	Tonsillitis	Inflamed Turbinates	Cervical and other Glands	Nasal Spurs, Defections and obstructions	Nasal Inflammation	Poly-pi	Discharging ears	
553	1208	1380	77	111	34	18	11	9	102	34	23	3	108	54

	DEFECTS (Continued)							No. of cases remaining under treatment or kept under observation	No. of cases for whom no report is available
	Post Diphtheritic Paralysis	Drums destroyed	Inflamed Membranes	Thickened Scarred and Opaque Membranes	Indrawn Membranes	Deafness (Slight)	Deafness (Severe)	Wax in ears	Other conditions
1	1	19	75	48	38	—	75	103	8

TABLE VII.—Electrical Ionisation.

Number of Cases referred for Treatment.	Number of Consultations.	Number of Attendances for Treatment.	DEFECT.		Number of Cases still under Treatment or Observation.	Number of Cases for whom no Report is available.
				Discharging Ears.		
17	87	110	17	15	2	—

TABLE VIII.—Treatment of Ringworm.

Number of Cases.			Number of Consultations with Doctor.	Number of Attendances made by Children at Clinic.	Number of Bacteriological Examinations.	Number of Cases Cured.	Number of Cases still under Treatment.		Number for whom no Report is available
Old.	New.	Total.					Attending School.	Not attending School.	
25	27	52	243	422	89	31	21	—	—

TABLE IX.—Electrical Treatment.

NUMBER OF CASES.					Number of Attendances for Treatment.	DISEASE OR DEFECT.	
Boys.		Girls.		Total		Infantile Paralysis	Naevus
Old	New	Old	New	Total	13	6	
4	4	5	6	19	279		

TABLE X.—Summary of School Accidents which occurred during the Year 1930.
(Elementary School Children).

NUMBER OF CASES.			Total number of Attendances made by children at Clinic.	Number of Cases where Treatment was completed at Clinic.	Number of X-Ray Exposures.	Number of Cases referred to Hospital or Private Practitioner for further Treatment.	Number of Cases resulting in Permanent Disability.
Serious	Minor	Total.					
1	148	149	537	141	18	9	1

NOTE: Cases of simple fracture not resulting in permanent disability and cuts requiring stitching, however extensive, so long as no permanent injury but a good scar resulted, are included as minor injuries.

TABLE XI.—Showing number of Children discovered at Routine Inspection with Enlargement of the Thyroid Gland. Year 1930.

Group examined.	Number of Children examined.			Number of Children found with enlargement of the Thyroid Gland.		
	Boys	Girls	Total	Boys	Girls	Total
Entrants ...	621	633	1254	1	1	2
Intermediates ..	577	563	1140	3	13	16
Leavers ...	367	365	732	3	24	27
TOTAL ..	1565	1561	3126	7	38	45

TABLE XII.—Treatment of Enlarged Thyroid at Special Clinic.

Number of Cases.			Number of attendances for treatment.	Number of Consultations.	Number of Cases cured.	Number of Cases still under observation and treatment.
Old	New	Total				
26	40	66	492	452	18	48

TABLE XIII.—Bacteriological and Other Examinations carried out during the Year 1930.

Number of Bacteriological examinations	...	...	247
Number of Blood examinations—Histological	...	...	25
Urine—Number of Chemical examinations	...	...	16
Number of Microscopical examinations	...	...	2
Number of X-ray examinations	...	...	130

HIGHER EDUCATION.**Statistical Tables.**

Higher Education.

TABLE I.—Number of Children attending the Swindon Secondary Schools inspected during the Year ended 31st December, 1930.

A.—ROUTINE MEDICAL INSPECTIONS.

		AGE GROUPS.									Total.
		11	12	13	14	15	16	17	18	19	
Boys	...	25	87	111	123	101	111	37	12	1	608
Girls	...	17	49	44	69	57	39	11	8	—	294
Totals	...	42	136	155	192	158	150	48	20	1	902

B.—OTHER INSPECTIONS.

Number of Special Inspections	...	...	...	...	212
Number of Re-Inspections	...	...	...	...	493
Total				...	705

**TABLE II.—A.—Return of Defects found by Medical Inspection
in the Year ended 31st December, 1930.**

DEFECT OR DISEASE.	ROUTINE INSPECTIONS.		SPECIAL INSPECTIONS.	
	No. of Defects.		No. of Defects.	
	Requiring treatment.	Requiring to be kept under obser- vation but not re- quiring treatment.	Requiring treatment.	Requiring to be kept under obser- vation but not re- quiring treatment.
(1)	(2)	(3)	(4)	(5)
Malnutrition	1	3	...	...
<i>Skin—</i>				
Ringworm—Body	1	...	...	...
Other Diseases (non-Tuberculous)	15	...	21	...
<i>Eye—</i>				
Blepharitis	4	...	4	...
Conjunctivitis	2	...	1	...
Defective Vision	72	21	7	1
Squint	1	...	...	...
Other Conditions	4	2	19	1
<i>Ear—</i>				
Defective Hearing	8	4	2	...
Otitis Media	1	...	14	...
Other Ear Diseases	7	4	17	5
<i>Nose and Throat—</i>				
Enlarged Tonsils only	7	22	10	3
Adenoids only ... ..	...	...	1	...
Enlarged Tonsils and Adenoids ... ..	...	1	2	...
Other Conditions	7	8	3	4
<i>Glands—</i>				
Enlarged Cervical and Sub-max: (non-Tuberculous)	2	...	4	...
Enlarged Thyroid	31	3	4	...
<i>Speech—</i>				
Defective ... ..	...	...	...	...
<i>Teeth—</i>				
Dental Diseases	3	...	...	...
<i>Heart and Circulation—</i>				
Heart Disease—Organic	2	3	...	1
Functional	3	9	1	4
Anaemia	9	2	2	1
<i>Lungs—</i>				
Bronchitis ... ..	...	...	...	...
Other Non-Tuberculous Diseases	1	2	...	...

TABLE II.—A.—(Continued).

DEFECT OR DISEASE.	ROUTINE INSPECTIONS.		SPECIAL INSPECTIONS.	
	No. of Defects.		No. of Defects.	
	Requiring treatment.	Requiring to be kept under observation but not requiring treatment.	Requiring treatment.	Requiring to be kept under observation but not requiring treatment.
(1)	(2)	(3)	(4)	(5)
<i>Nervous System—</i>				
Chorea ... ..	...	...	1	...
Other Conditions	17	5	3	...
<i>Deformities—</i>				
Rickets	2	...	...	...
Spinal Curvature	58	10	5	2
Other Forms	100	11	6	...
<i>Other Defects or Diseases</i>	16	20	79	13

TABLE III.—Summary of Accidents which occurred to Secondary School Children
During the Year 1930.

Number of Cases.		Total Number of Attendances made by Children at Clinic.	Number of Cases where Treatment was completed at Clinic.	Number of X-Ray Exposures.	Number of Cases referred to Hospital or Private Practi- tioner for further Treat- ment.	Number of Cases resulting in permanent disability.
Serious.	Minor. Total.					
—	35 35	138	33	15	2	—

NOTE.—Cases of simple fracture not resulting in permanent disability, and cuts requiring stitching, however extensive, so long as no permanent injury but a good scar resulted, are included as minor injuries.

TABLE IV.—Return of Defects Treated during the Year ended
31st December, 1930.

TREATMENT TABLE.

Group I.—Minor Ailments (excluding Uncleanliness).

DISEASE OR DEFECT.	Number of Defects treated, or under treatment during the year.		
	Under the Authority's Scheme.	Otherwise	Total.
—			
Ringworm—Scalp	—	—	—
Ringworm—Body	—	1	1
Scabies	—	—	—
Impetigo	—	—	—
Other Skin Disease	18	—	18
Minor Eye Defects	13	—	13
Minor Ear Defects	2	—	2
Miscellaneous (e.g., minor injuries, bruises, sores, etc.)	64	2	66
Total	97	3	100

TABLE IV.—(Continued).

Group II.—Defective Vision and Squint.

DEFECT OR DISEASE.	No. of Defects dealt with			
	Under the Authority's Scheme.	Submitted to refraction by private practitioner or at hospital apart from the Authority's Scheme.	Otherwise	Total.
Errors of Refraction (including Squint)	122	—	—	122
Other Defect or Disease of the Eyes	1	—	—	1
Total	123	—	—	123

Total number of Children for whom Spectacles were prescribed :

(a) Under the Authority's Scheme	...	...	...	81
(b) Otherwise	...	...	...	—

Total number of Children who obtained or received Spectacles :

(a) Under the Authority's Scheme	...	...	...	74
(b) Otherwise	...	...	...	1

Group III.—Treatment of Defects of Nose and Throat.

NUMBER OF DEFECTS.

Received Operative Treatment.			Received other forms of Treatment.	Total number Treated.
Under the Authority's Scheme, in Clinic or Hospital.	By Private Practitioner or Hospital, apart from the Authority's Scheme.	Total.		
7	—	7	20	27

TABLE IV.—(Continued).

GROUP IV.—Dental Defects, Dental Inspection and Treatment.

(1) Number of Children who were:—

(a) Inspected by the Dentist:

Aged	$\left\{ \begin{array}{cc} 11 & 68 \\ 12 & 112 \\ 13 & 135 \\ 14 & 183 \\ 15 & 125 \\ 16 & 96 \\ 17 & 32 \\ 18 & 13 \\ 19 & 1 \end{array} \right\}$	Total	765
Age Groups			

Specials	—
----------	-----	-----	-----	-----	-----	---

Grand Total	765
-------------	-----	-----	-----	-----

(b)	Found to require treatment	401
-----	----------------------------	-----	-----	-----	-----

(c)	Actually treated	228
-----	------------------	-----	-----	-----	-----	-----

2) Half days devoted to:	{ Inspection 9 Treatment 90 }	Total ...	99
--------------------------	----------------------------------	-----------	----

3) Attendances made by Children for treatment ... 422

) Fillings	(Permanent teeth	264	} Total ...	264
	(Temporary teeth	—		

) Extractions	(Permanent teeth	61) Total ...	100
	(Temporary teeth	39		

b) Administrations of general anæsthetics —

) Other operations	{ Permanent teeth	112	{ Total	...	127
	{ Temporary teeth	15			

TABLE IV.—(Continued).

GROUP IV.—Condition of Teeth of Scholars Dentally Inspected
at the Secondary Schools during the Year 1930.

THE COLLEGE SECONDARY SCHOOL.

BOYS.

Year of Birth.	Number of Carious Teeth.							Number free from Caries.	Total number examined.
	1	2	3	4	5	6	8		
1912	...	...	1	1	...	...	...	2	4
1913	5	1	1	...	...	...	...	9	16
1914	8	7	1	...	...	1	...	10	27
1915	12	3	4	...	...	...	...	8	27
1916	10	5	3	1	...	...	1	21	41
1917	10	3	3	...	...	...	...	9	25
1918	10	6	...	1	...	2	...	6	25
1919	3	1	...	3	1	...	...	4	12
Totals	58	26	13	6	1	3	1	69	177

GIRLS.

Year of Birth.	Number of Carious Teeth.				Number free from Caries.	Total number examined.
	1	2	3	4		
1912	2	...	...	...	2	4
1913	1	...	...	...	2	3
1914	5	1	1	...	5	12
1915	8	2	2	1	6	19
1916	11	1	...	...	11	23
1917	6	...	1	1	5	13
1918	4	3	1	...	8	16
1919	3	1	2	...	3	9
Totals	40	8	7	2	42	99

EUCLID STREET SECONDARY SCHOOL.

BOYS.

Year of Birth.	Number of Carious Teeth.						Number free from Caries.	Total number examined.
	1	2	3	4	5	6		
1914	3	3	1	...	...	...	8	15
1915	8	3	...	...	...	...	11	22
1916	7	2	1	...	1	...	11	22
1917	6	4	1	2	2	1	19	35
1918	8	4	1	...	...	...	14	27
1919	2	4	2	1	1	1	4	15
Totals	34	20	6	3	4	2	67	136

TABLE IV.—(Continued). Group IV.—(Continued).

EUCLID STREET SECONDARY SCHOOL.

GIRLS.

Year of Birth.	Number of Carious Teeth.				Number free from Caries.	Total number examined.
	1	2	3	4		
1914	1	...	1	...	6	8
1915	6	2	...	1	6	15
1916	7	3	1	2	11	24
1917	5	1	...	...	13	19
1918	4	2	2	...	5	13
1919	3	...	...	2	2	7
Totals	26	8	4	5	43	86

THE COMMONWEAL SECONDARY SCHOOL.

BOYS.

Year of Birth.	Number of Carious Teeth.						Number free from Caries.	Total number examined.
	1	2	3	4	5	8		
1912	...	...	...	...	...	...	2	2
1913	2	...	...	...	...	...	7	9
1914	8	2	...	...	...	1	9	20
1915	5	2	2	1	1	...	17	28
1916	14	5	1	...	...	...	24	44
1917	14	1	...	1	1	...	11	28
1918	3	3	1	1	...	...	9	17
1919	2	2	2	1	...	...	8	15
Totals	48	15	6	4	2	1	87	163

GIRLS.

Year of Birth.	Number of Carious teeth.				Number free from Caries.	Total number examined.
	1	2	3	5		
1911	...	...	...	...	1	1
1912	...	...	...	...	3	3
1913	1	...	...	...	3	4
1914	4	1	...	...	9	14
1915	6	1	...	...	7	14
1916	9	2	1	1	16	29
1917	5	1	1	...	8	15
1918	7	2	...	...	5	14
1919	5	...	1	...	4	10
Totals	37	7	3	1	56	104

TABLE IV.
GROUP IV.—(Continued).—Summary of Results of Dental Inspection at the Secondary Schools, Year 1930.

Secondary School.	ENTRANTS.		RE-INSPECTIONS.		Total number Inspected.	Total number referred for Treatment.	Number free from Caries.
	Number Inspected.	Number referred for Treatment.	Number Inspected.	Number referred for Treatment.			
The College ...	34	13	242	152	276	165	111
Euclid Street ...	66	42	156	70	222	112	110
The Commonweal ...	36	12	231	112	267	124	143
Totals ...	136	67	629	334	765	401	364

Percentage of Entrants requiring Treatment ... 49.2
 Percentage of Children Re-inspected requiring Treatment ... 53.1
 Percentage of total number of Children inspected requiring Treatment ... 52.4

TABLE V.—Treatment of Enlarged Thyroid at Special Clinic.

Number of Cases.			Number of attendances for treatment.	Number of Consultations.	Number of Cases cured.	Number of Cases still under observation and treatment.
Old	New	Total				
13	22	35	150	147	6	29



Borough of Swindon.

ANNUAL

REPORT

OF THE

Medical Officer of Health

FOR THE YEAR 1930

AND THE

Isolation Hospital Annual Report

From the 1st April, 1930, to the 31st March, 1931

BY

DUNSTAN BREWER, M.R.C.S., L.R.C.P., D.P.H.

Report of the Chief Sanitary Inspector

FOR THE YEAR 1930.

BOROUGH OF SWINDON.

HEALTH COMMITTEE :

Chairman—Councillor MRS. L. FRY.

Vice-Chairman—Councillor MRS. M. GEORGE.

Members :

THE MAYOR (Alderman J. BELCHER).

Alderman G. H. HUNT	Councillor Mrs. S. ANDREWS
„ R. GEORGE	„ S. E. WALTERS
„ A. H. WHEELER	„ L. M. SUTTON
Councillor T. MANNING	„ A. W. HAYNES
„ F. E. AKERS	„ R. G. CRIPPS
„ C. C. PRICE	„ G. W. BRUNGER
„ L. J. NEWMAN	„ A. E. HARDING.
„ J. WEBBER	

MATERNITY AND CHILD WELFARE SUB-COMMITTEE :

Chairman—Councillor MRS. M. GEORGE.

Members :

Alderman G. H. HUNT	Councillor L. M. SUTTON
„ R. GEORGE	„ A. W. HAYNES
„ A. H. WHEELER	„ R. G. CRIPPS
Councillor Mrs. L. FRY	„ G. W. BRUNGER
„ T. MANNING	„ A. E. HARDING
„ F. E. AKERS	Miss K. J. STEPHENSON
„ C. C. PRICE	Miss D. P. CHAPPELL
„ L. J. NEWMAN	Mrs. ARNOLD FORSTER
„ J. WEBBER	Mrs. WESTON
„ Mrs. S. ANDREWS	Mrs. SCHMITZ
„ S. E. WALTERS	Miss I. F. MOORE.

Town Clerk—W. H. BENTLEY, ESQ.

BOROUGH OF SWINDON.

PUBLIC HEALTH DEPARTMENT.

STAFF :

Medical Officer of Health, School Medical Officer and Medical Superintendent of the Isolation and Maternity Hospitals.

DUNSTAN BREWER, M.R.C.S., L.R.C.P., D.P.H.

Deputy Medical Officer of Health.

J. STEVENSON LOGAN, M.B., Ch.B., D.P.H.

Assistant Medical Officer of Health.

VIOLET KING, M.B., Ch.B.

Chief Sanitary Inspector.

F. H. BEAVIS.

Certificate of the Royal Sanitary Institute.

Certificate of the Royal Sanitary Institute for Meat Inspection.

Certificate in Building Construction.

Assistant Sanitary Inspectors.

H. A. BANWELL.

Certificate of the Royal Sanitary Institute.

Certificate of the Royal Sanitary Institute for Meat Inspection.

Certificate of the Worshipful Company of Plumbers and Final
Certificate City and Guilds.

Certificate in Hygiene.

R. N. HUGHES.

Certificate of the Royal Sanitary Institute and Sanitary Inspectors
Examination Joint Board.

Liverpool University Certificate in Meat and Food Inspection.

Liverpool University Certificate in Sanitary Science.

L. R. ELDRED.

Certificate of the Royal Sanitary Institute.

Head Clerk—ERNEST A. BEASANT.

Assistant Clerks—W. M. WATTS

W. H. PAUL

F. YATES.

PUBLIC HEALTH DEPARTMENT.**STAFF—Continued.**

Assistant Clerk and Clinical Assistant—Miss M. E. BUTLER.

Matron of the Isolation Hospital.

Miss J. MCKINNON SMITH, A.R.R.C.

Matron of the Maternity Home and Training Centre.

Miss F. R. SILLICK.

Health Visitors.

Miss M. HANNA.

3 years General Training.

State Registered Nurse.

Certificate of the Central Midwives Board.

Miss M. JOHNS.

3 years Certificate of Hospital Training.

Certificate of the Central Midwives Board.

Queen's Nurse.

Miss H. E. HARTLEY.

4 years Certificate of Hospital Training.

Brompton Hospital Tuberculosis Certificate.

Certificate of the Central Midwives Board.

Health Visitor's Certificate of the Royal Sanitary Institute.

Disinfector—G. GREENAWAY.

Voluntary Helpers at Maternity Centres—

Mrs. E. SCHMITZ

Mrs. WESTON.

Mrs. OSMOND

Mrs. HUMPHRIES

Mrs. HULANCE.

To the Chairman and Members of the Health, etc. Committee.

LADIES AND GENTLEMEN,

The aim of all public health work can be stated quite simply: it is to attain and to maintain a constant high level of the physiological value of the population. But in practice the difficulties are formidable, for we have but a vague idea of what values are naturally attainable, incomplete knowledge of the adverse factors which interfere with them and a much limited capacity to remedy the errors which we can detect. The administrative troubles of dispensing public health functions, exasperating as they are, are nevertheless problems which our ingenuity can surmount if we are prepared to give the time, trouble and money necessary for their solution, but though we are ready enough to preach that trouble and expense are of no moment in matters of life and health, we are given to equivocation when it comes to filling in the time sheet and settling the bill, so that even in the most enlightened community there is considerable lag between what could be done and what is done, quite apart from any indecision because the way is uncertain.

In order to maintain the continuity of records it is advisable to preface this quinquennial report by a brief summary of the work done during the year 1930, so that that year's record can be compared and contrasted with those of former and of future years.

Generally throughout the country, 1930 was an extremely favourable year for health. The crude death rate was the lowest on record and the standardised death rate, the figure which must be used for comparisons, will work out much below any of which we have knowledge. The morbidity rate, which tells us the extent of disease, though incapable of exact measurement, must have been a low record also, but owing to certain factors which need not be discussed here, of recent years the morbidity, or disease, rate has become discontinent with the sickness rate and we are no longer able to measure the extent of disease by the number of persons who go sick and the amount of time they lose through sickness. The infantile mortality rate for the country as a whole was also a low record and there was no important factor relative to the health of the community in which 1930 was unsatisfactory. But locally in Swindon 1930 was by no means a favourable year. The infantile mortality was high; the general mortality was no better than average for recent years, and certain diseases were more prevalent than usual and exhibited a higher fatality. These matters will be discussed later.

STAFF OF THE PUBLIC HEALTH DEPARTMENT.

Mr. A. T. Selvey, the junior sanitary inspector, resigned early in the year and was replaced by Mr. L. R. Eldred.

Mr. H. J. Pugh and Mr. W. A. Sawyer, assistant clerks, also resigned during the year and were replaced by Mr. W. H. Paul and Mr. F. Yates respectively. Otherwise the personnel of the department underwent no change during the year.

HOUSING.

205 new houses were erected in the Borough during the year, of which 42 were erected by the Corporation and 163 by private enterprise.

Maternity
and Child Welfare.

ANNUAL STATISTICS RELATING TO THE MATERNITY HOME, 1930.

	Borough	County	Total
(1) Number of cases in the home on 1st January, 1930. ...	4	—	4
(2) Number of cases admitted during 1930. ...	215	7	222
(3) Number of cases remaining in the home on 1st January, 1931.	4	—	4
(4) Average duration of stay. ...	13 days	15 days	—
(5) No. of cases delivered by—			
(a) Midwives ...	161	6	167
(b) Doctors ...	23	1	24
No. of cases in which no delivery took place. ...	31	—	31
(6) No. of cases in which medical assistance was sought by the midwife, with reasons for requiring assistance :—			
(a) Ante-natal ...	8	—	8
(b) During labour ...	23	2	25
(c) After labour ...	4	—	4
(State separately No. of ruptured perineums which required suture). ...	37	1	38
(d) For infant ...	23	—	23
(7) No. of cases notified as :—	(a) Nil.		
(a) Puerperal Fever, and	(b) 15. 4 removed to Isolation Hospital ; all recovered. 11 treated throughout at the Maternity Hospital ; all recovered. (See section on Puerperal Pyrexia on page 16).		
(b) Puerperal Pyrexia, (i.e., rise of temperature to 100.4° F. sustained for 24 hours or recurring within that period) with result of treatment in each case.			
(8) No. of cases of pemphigus neonatorum. ...	Nil.		

(9) No. of cases notified as ophthalmia neonatorum, with result of treatment in each case. ...	4. 3 removed to Isolation Hospital, 1 treated at the Maternity and Child Welfare Centre. All recovered without injury to the eyes.
(10) No. of cases of "inflammation of the eyes," however slight.	16.
(11) No. of infants not entirely breast-fed while in the Institution, with reasons why they were not breast-fed. ...	1 entirely artificially fed, owing to active tuberculosis of mother. 2 partially artificially fed, owing to a temporary poor supply of milk.
(12) No. of maternal deaths with causes. ...	Nil.
(13) No. of foetal deaths :— (a) Still-born, and (b) within 10 days of birth and their causes—and the results of the post mortem examination if obtainable.	(a) 16 Still-births :— 4 Macerated : 1 for certain, and 2 others probably, due to congenital syphilis. 1 was a hydrocephalic infant. 12 Fresh : 5 connected with antepartum haemorrhage, 3 with eclampsia, 1 with post-partum haemorrhage, 1 had hydrocephalus, and in 2 no cause was found to account for the still-birth. (b) 7 deaths under 10 days :— One pair twins, premature, 24 weeks. Lived a few hours. 1 full-time induction for eclampsia. Lived a day. 1 Spina bifida and anencephalic. Lived three days. 1 Transverse presentation, premature 29 weeks. Lived two days. 1 premature 36 weeks, blue asphyxia. Lived a few hours. 1 premature 38 weeks. Lived three days and died of "fits."

The agreement with the Wilts County Council terminated in March, 1930, after which date no County cases were admitted into the Home.

EXTERN MIDWIFERY DEPARTMENT.

Swindon Maternity Home is a recognised training school for midwives and has an extern department, managed by the same staff as the Home.

In 1930 there were 218 deliveries and five miscarriages in the district. Six of these cases were transferred to the Hospital. Among these 223 cases there were five stillbirths and nine deaths of infants during the first ten days. Medical aid was sought in 27 cases during labour, for six cases during the puerperium and in five cases a doctor was called in at the request of the relatives.

During the year 13 probationers were under instruction. Of these, seven obtained the certificate of the Central Midwives Board.

REPORT ON WORK DONE AT THE ANTE-NATAL CLINIC, 1930.

(By DR VIOLET KING, Assistant Medical Officer of Health).

There has been a slight increase in the number of new patients who attended this Clinic during the year, while the total number of attendances has been very satisfactory. Twenty per cent. of the mothers had previously visited on one or more occasions.

Of the five cases of heart disease, two were serious. Both mothers had normal confinements with living babies, one of which was premature.

Two patients received treatment for enlarged thyroid, and another had her ear ionised. Eight mothers developed puerperal pyrexia after their confinements. One of these was suffering from tuberculosis. Five were transferred to the Isolation Hospital. Four mothers suffered from eclampsia; of these, three were delivered of still-born infants.

The reasons for applying forceps in twenty-two of the cases were: Twelve for delay in the second stage of labour, four for prolonged labour, two for uterine inertia, two for rigid os, the second of which was also a mal-presentation, one for a deformed baby and one for a large baby.

Of the eight still-births recorded, three were connected with the cases of eclampsia noted above, one followed ante-partum

haemorrhage, one was a mal-presentation, one was a monster, and one was macerated.

The still-births represent 2.7 per cent. of the confinement results, and 4.1 per cent. of the live-born babies died within one month.

There were no maternal deaths.

V. REDMAN KING.

Asst. Medical Officer of Health.

Public Health Department,
61, Eastcott Hill,
Swindon.

STATISTICS RELATING TO THE ANTE-NATAL CLINIC, 1930.

No. of old cases on the books	...	...	...	54
No. of new cases	...	...	...	355
				<hr/>
Total	...	...	...	409
				<hr/>
Attendances at Doctor's Clinic	...	...	...	875
Attendances at Matron's Clinic	...	...	...	1166
				<hr/>
Total	...	...	...	2041
				<hr/>
Carried forward into 1931	...	...	...	78
Urine examinations	...	...	...	1912
Wassermann tests	...	...	...	4
Patients treated at V.D. Clinic	...	...	...	2
X-rayed	...	...	...	1
Gynaecological cases	...	...	...	19
Cases of doubtful pregnancy	...	...	...	7
County cases	...	...	...	14
Sent by family doctor	...	...	...	5
Sent by midwives	...	...	...	38
Booked for Maternity Home	...	...	...	146
Booked for District	...	...	...	100
Patients referred to Consultant	...	...	...	11
Patients referred to family doctor with note	...	...	...	14
Post-natal cases	...	...	...	3
Confinement results not known	...	...	...	14
Referred to dentist	...	...	...	21
Blood pressures taken	...	...	...	131

Conditions found at Clinics:—

Albuminuria	...	...	...	...	10
Contracted pelvis	...	...	...	...	1
Enlarged thyroid	...	...	...	...	18
Heart disease	...	...	...	...	5
Discharging ears	...	...	...	...	2
Mastitis	...	...	...	...	1
Unruptured hymen	...	...	...	...	1
Prolapse	...	...	...	...	5
Varicose veins	...	...	...	...	40
Pyorrhoea	...	...	...	...	12
Epilepsy	...	...	...	...	1
Tuberculosis	...	...	...	...	1

Known results of Confinements:—

Normal deliveries	...	...	...	...	195
Of these: Twins	...	...	...	...	5
Premature	...	...	...	...	13
Inductions	...	...	...	...	2
Abnormal Cases:—					
Instrumental	...	...	...	...	32
Breech presentations	...	...	...	...	2
Eclampsia	...	...	...	...	4
Still-births	...	...	...	...	8
Abortions	...	...	...	...	3
Foetal Abnormalities:—					
Spina bifida	...	...	...	...	1
Partial hypospadias	...	...	...	...	1
Double talipes	...	...	...	...	1
Monster	...	...	...	...	1

The following table gives the details of confinements of women who had attended the Ante-natal Department, but in whom the child failed to survive.

No.	Age	Para.	Visits	Comments.	Details of Confinements.
1	29	1	1	A delicate anaemic mother. Suffers much from gastritis and constipation. Has bad teeth. Married 4 years before conception.	Mother developed eclampsia. Delivered of a macerated premature foetus.
2	26	1	2	A healthy mother. No movements felt before 2nd visit, and no heart sounds heard at that time. Foetus alive 18 days previously.	Abortion occurred 5 days after 2nd visit. Mother sent for blood test.
3	38	5	1	Mother healthy. All previous confinements normal. Had eclampsia after delivery of last baby. Present blood pressure 150.	Still-birth followed ante-partum haemorrhage.
4	22	1	1	Mother in good health. Subject to nose bleeding. Blood pressure 140.	Instrumental delivery for difficult presentation.
5	22	2	3	Mother had anaemia and chorea at 12 years. Albuminuria present before 1st confinement which resulted in stillbirth. A cyst of Bartholin's gland present in this pregnancy. Sent to Gorse Hill for treatment.	Mother admitted to Maternity Home as an emergency case with eclampsia.

No.	Age	Para.	Visits	Comments.	Details of Confinements.
6	24	3	1	Mother healthy. Very fat. Suffered from abdominal pains and cramp. Had a fall three weeks previous to visit. Hydramnios present. Referred to Consultant for diagnosis of presentation.	Confinement on district 2 weeks after clinic visit. Breech presentation, deformed infant.
7	38	5	4	Mother had bad teeth, otherwise healthy.	Delivered on district of still-born twins.
8	27	1	3	General health of mother good. Some abdominal heaviness and indigestion. Not sleeping well. Blood pressure 126. Came unexpectedly for last visit: had sudden pains in the street. Advised to go home to bed, and send for own doctor if any worse.	Admitted to Maternity Home the following day with eclampsia, and delivered of a premature macerated foetus.
9	38	11	1	Physical health fair. Unhappy domestic circumstances. Severe varicose veins; back ache, slight albuminuria.	Delivered in the Maternity Home of a premature macerated foetus. Wassermann negative.

Neo-Natal Deaths in relation to Ante-Natal Work.

No.	Age	Para.	Visits	Mother's History.	Infant's History.
1	43	14	2	Had a negative Wassermann in 1928. Has had kidney trouble. Has severe varicose veins. History of shivering and headache shortly before confinement. Trace of albumin in urine.	Baby born on district. Attended Public Health Department for eye trouble. Had talipes. Referred to Gorse Hill as congenital syphilis requiring treatment. Died at one month.

No.	Age	Para.	Visits	Mother's History.	Infant's History.
2	21	2	3	One child still-born. At 1st visit had slight coloured discharge and backache. None subsequently. Admitted to Maternity Home several times between July and October for albuminuria.	Born on district. Delivered with forceps at 8 months. Deformed and premature. Died in eight hours.
3	27	2	1	Healthy mother.	Delivered in the Maternity Home. Baby premature. Died in 21 hours.
4	35	3	1	A delicate woman. Had had pneumonia, pleurisy and spinal curvature. Was in a sanatorium at 22 years of age. Had 2 abortions 1921, 1924 respectively. 1st baby premature, weighed 3½lbs. 2nd normal. Had much sickness, backache and headache during present pregnancy.	Delivered at home of triplets, each of which weighed 2lbs.1oz. All died within 24 hours.
5	32	6	1	A healthy mother.	A premature baby born at home. Weighed 3½lbs. Died from asthenia in 3 weeks.
6	36	7	4	Healthy. Passed blood clot several times a few weeks before present delivery. Was in bed, under family doctor.	Born in Maternity Home prematurely. Weighed 4½lbs. Died in 18 days from inanition.
7	16	1	1	A healthy girl.	Twins, born prematurely on district. Both died within 2 weeks.
8	17	1	1	Healthy. Albumin in urine and swollen feet at visit. Diagnosed as a case of gonorrhoea after confinement and transferred to Gorse Hill.	An illegitimate premature baby, born in the Maternity Home. Developed ophthalmia. Transferred with mother to Gorse Hill. Died at 6 days from congenital heart disease.

No.	Age	Para.	Visits	Mother's History.	Infant's History.
9	18	1	2	Suffering from ear discharge. Ionised at Public Health Clinic. Mother not very well since.	Premature twins, born on district, weighed respectively $4\frac{1}{4}$ and $3\frac{1}{4}$ lbs. Both died within 4 days.
10	30	1	4	Had had scarlet fever, diphtheria and floating kidney. During pregnancy suffered from backache and swollen ankles. Some albuminuria.	Born in Maternity Home. Weighed 5lbs. Died at 3 days from debility and congenital heart disease.
11	22	1	3	Mother has suffered from anaemia and digestive troubles.	Born at home. Died at 3 days from congenital heart disease.
12	42	13	6	A delicate, worn-out woman. Has attended V.D. Clinic in past years. Has had 4 abortions and 2 stillbirths. Not at all well during pregnancy.	Delivered in Maternity Home by forceps of a monster. Died in 3 days.

PUERPERAL PYREXIA.

There were 31 notifications of puerperal fever and pyrexia during 1930, but of these, three were women who were not natives of Swindon, two of whom had been delivered outside the Borough. All were investigated, though in some cases the investigation was not carried very far. 15 cases were notified from the Maternity Home, 2 from private nursing homes, 1 from Victoria Hospital, 1 from the V.D. Hospital and 12 occurred in women delivered in their own homes. 4 of the cases from the Maternity Home, 1 from a private nursing home, 1 from the V.D. Hospital and 4 of those delivered in their own homes were removed to the Isolation Hospital. In addition, 3 cases from the outside district, not included in the above statistics, were treated in the Isolation Hospital.

The 34 cases which came under the notice of the Public Health Department may be analysed as follows:—

Streptococcal septicaemia: 1 case with 1 death.

Septic infection of the uterus, with retention: 12 cases with 1 death.

Scarlet fever occurring in the puerperium: 2 cases with 1 death.

Albuminuria: 3 cases with no death.

Bacillus coli septicaemia: 1 case with no death.

Influenza: 6 cases with no death.

Pleurisy: 2 cases with no death.

Inflamed breasts: 2 cases with no death.

Tuberculosis: 1 case with no death.

Septic abortion: 4 cases with no death.

The incidence of puerperal pyrexia amongst the patients delivered in the Maternity Home appears to be high. This is due to a different interpretation of the Puerperal Pyrexia Order for the Home cases and for others. If the same basis for notification had been used in the Maternity Home as is used outside it, the number of cases of puerperal pyrexia occurring in the Home sinks from 15 to 5.

MATERNAL DEATHS.

The details of 4 deaths occurring as a result of, or in connection with, reproduction were investigated. One of these was a death from heart disease occurring as an accident in a puerperal woman,

one was a case of concealment of birth, one a case of scarlet fever septicaemia and the other of streptococcal septicaemia.

OPHTHALMIA NEONATORUM.

The number of cases of this disease notified in the Borough during 1930 was 11. This is the highest number since 1927. 48 cases of discharging eyes, in addition to the above, were reported by midwives and 10 cases were seen at the infant clinics, notified neither by doctors nor midwives.

1 notified case and 5 unnotified cases were treated privately; the remainder were treated throughout at the Public Health Department. 2 of the unnotified infants died from causes not connected with the ophthalmia; the remainder recovered completely without any interference with the sight.

TREATMENT AT THE CHILD WELFARE CENTRE.

7 notified cases, 30 midwives cases and 10 cases which had not been notified either by a practitioner or a midwife, were treated at the Child Welfare Centre. One of the notified and one of the unnotified cases were transferred to the V.D. Department.

TREATMENT AT THE MATERNITY HOSPITAL.

4 notified cases occurred in the Maternity Hospital, 3 of which were removed to the V.D. Department and 1 was transferred to the Maternity and Child Welfare Centre. 16 unnotified cases occurred. 4 of these were transferred to the Maternity and Child Welfare Centre; the remainder were treated throughout in the Maternity Hospital.

TREATMENT AT GORSE HILL V.D. HOSPITAL.

3 notified cases from the Maternity Hospital, 1 notified case from the Child Welfare Centre and 1 unnotified case from the Child Welfare Centre were treated at Gorse Hill V.D. Hospital during the year.

Ophthalmia neonatorum and sore and discharging eyes were highly prevalent in 1930 and gave rise to a good deal of anxiety and a great amount of work, though the actual amount of damage done by the condition was negligible.

The bacteriology of these cases is given in the following table:—

NOTIFIED CASES:—

Gonococcus	...	...	...	...	8
Sterile	...	...	...	...	2
Not examined	...	...	...	...	1

NON-NOTIFIED CASES:—

Pneumococcus	...	...	...	...	5
Streptococcus	...	...	...	...	1
Spirochaeta pallida	...	...	...	...	1
Various organisms	...	...	...	...	12
Sterile	...	...	...	...	20
Not examined	...	...	...	...	19

OPHTHALMIA NEONATORUM.

Year.	No. Notified.	Cases of Infantile Ophthalmia due to Gonococcus.	Where Treated.				Result.				Not Notified as O.N.
			Home.	Gorse Hill.	Clinic.	Maternity Hospital.	Cured.	Blind.	Injured.	Died.	
*1921	7	?	3	...	4	...	7	...	...	...	19
1922	21	?	2	...	19	...	20	...	1	...	16
1923	34	23	5	4	25	...	30	...	2	2	11
1924	15	13	...	3	10	2	15	...	...	...	12
1925	9	4	1	2	5	1	9	...	...	..	11
1926	8	3	...	...	8	...	8	...	...	...	22
1927	11	5	1	3	6	1	11	...	...	...	15
1928	4	4	...	2	2	...	4	...	...	...	30
1929	3	2	...	1	2	...	2	...	1	...	28
1930	11	8	1	4	6	...	11	...	...	...	58

* These figures are incomplete.

Table showing number of cases of Ophthalmia Neonatorum notified, the number treated, the results of treatment, and the number of deaths occurring. 1930.

No. of Cases notified	11	No. of Cases	Vision Unimpaired	Vision Impaired	Total Blindness	Deaths
Treated at Clinic	...	6	6	...	...	...
Treated at Gorse Hill Clinic	...	4	4	...	...	...
Treated at Maternity Hospital
Treated privately	...	1	1	...	...	...
TOTALS	...	11	11	...	...	...

Table Showing the Number of Visits Paid by the Health Visitors to Mothers and Children and to cases of Tuberculosis.

	1926	1927	1928	1929	1930
No. of first visits paid to mothers and children	975	815	874	884	975
No. of revisits	3368	3674	3731	4765	4240
No. of visits paid to expectant mothers ...	166	168	220	330	260
No. of visits paid to cases of deaths and still-births	103	87	89	110	109
No. of visits to cases of Tuberculosis ...	114	170	145	127	161
No. of visits paid to children aged 1—5 years	2584	3421	4048	5570	5419
	7310	8335	9107	11786	11164

Record of Work done at the Infant Welfare Centres during the Years 1926–1930 inclusive.

	1926	1927	1928	1929	1930
No. of separate Infants who attended the Centre at—					
Eastcott Hill	1116	1153	1242	1247	1278
Gorse Hill	305	328	316	263	245
Rodbourne	255	273	260	261	233
Pinehurst* ... ..	...	...	...	66	139
TOTAL	1676	1754	1818	1837	1895
Number of Attendances—					
Eastcott Hill	6079	6173	6281	6649	8232
Gorse Hill	1736	2473	2185	1917	2098
Rodbourne	1556	2057	2115	2282	2156
Pinehurst ... ..	...	...	...	309	920
TOTAL	9371	10703	10581	11157	13406
Number of cases which received medical advice and treatment	746	787	942	939	1050
Total Consultations	2029	2111	2505	2636	3567

*Opened 15th July, 1929.

Summary of Conditions Seen and Treated at the Infant Welfare Clinics during the Year 1930.

	Infants.	Toddlers.	Total.
Disease and Defects due to Ante-Natal Causes—			
Phimosis	150	1	151
Congenital defects of nervous system..	29	13	42
Congenital diseases of the blood ..	1	—	1
Other congenital deformities & defects	33	6	39
	213	20	233
Specific Infections—			
Congenital syphilis	13	1	14
Gonorrhœa other than O.N. ..	1	—	1
Ophthalmia neonatorum	61	—	61
Tuberculosis	2	3	5
Diphtheria, scarlet fever, measles, whooping cough	12	15	27
Pneumonia	6	3	9
Rheumatism	—	—	—
Nervous system	4	7	11
Various infections	70	32	102
	169	61	230
Deficiency States—			
Ill-feeding	220	6	226
Scurvy	4	—	4
Rickets	14	2	16
Anaphylaxis	18	5	23
Teeth	25	42	67
Tonsils and Adenoids	3	10	13
Various	16	3	19
	300	68	368
Injuries	21	12	33
Miscellaneous	125	61	186
	828	222	1050
No. of Operations for the removal of Tonsils & Adenoids ..	—	9	9
No. of Bacteriological examinations	60	11	71
No. of Haematological examinations	5	3	8
No. of X-Rays examinations ..	9	2	11
No. of Mental Defectives ..	8	9	17
No. of Physical Defectives ..	2	—	2
No. of Blind Children ..	—	—	—
No. of Deaf Children ..	—	1	1
No. of Mute Children ..	1	—	1

Table Showing the Number of Infants and Toddlers referred to Special Departments for Treatment during 1930.

	Infants	Toddlers	TOTAL.
Dental Clinic	21	304	325
Eye Clinic	11	9	20
V.D. Clinic	17	1	18
Orthopaedic Clinic	6	5	11
Throat, Nose and Ear Clinic ..	1	14	15
Electrical Clinic	6	3	9
Tuberculosis Clinic	2	3	5
Rheumatic Clinic	—	—	—
TOTAL	64	339	403

THE MILK (MOTHERS AND CHILDREN) ORDER.

	1926	1927	1928	1929	1930
No. of applications granted ...	106	77	72	71	100
Total quantity of Milk issued (Galls) ...	1750	1497	1186	1572	2195
TOTAL COST £ (approx.)	160	140	100	150	200

INFANTILE MORTALITY.

The deaths of all persons under the age of 20 which occur in Swindon, and of all Swindon children who die away from the town, are investigated. Some knowledge of the previous history of these children is in the possession of the Health Office, and in an increasing number, the full life histories are available. Since some children die in the institutions of Swindon who do not belong to the town, and certain other children who have regularly attended the Swindon clinics die elsewhere, these investigations become somewhat complicated. In the review which follows, cognizance is only taken of those deaths which the Registrar General accredits to Swindon.

STILLBIRTHS.

44 stillbirths occurred in Swindon during 1930. Of these, 2 did not belong to the Borough, so 42 are accredited to Swindon, against 44 for last year. 15 Swindon cases and 1 of the outside cases occurred in the Maternity Hospital and 1 Swindon case and 1 outside case occurred in a private nursing home. All but one were legitimate. Of the 42 Swindon cases, 26 were males and 16 females. 16 were first pregnancies, 12 second, 7 third, 2 fifth, 1 seventh, 2 eighth, 1 eleventh and 1 thirteenth. 25 were full term and 17 premature.

The causes of stillbirth were, so far as can be ascertained, as follows:

FOETAL CAUSES:—

Hydramnios	...	...	...	...	...	1
Congenital syphilis	...	...	...	...	...	1

NATAL CAUSES:—

Malpresentation	...	...	...	...	...	3
Died during difficult labour	...	...	...	...	...	6

MATERNAL CAUSES:—

Ante-partum haemorrhage	...	...	...	...	...	5
Albuminuria	...	...	...	...	...	4
Injury	...	...	...	...	...	2

In the remaining 20 the cause of stillbirth is uncertain. Of these 42 mothers, 18 had received ante-natal attention.

DEATHS BEFORE THE END OF THE FIRST DAY.

17 such deaths occurred, against 9 for last year. 5 of these deaths occurred in the Maternity Hospital. 2 occurred outside

the Borough and nothing is known of them. 1, whose dead body was found in the canal, was the child of unknown parents, and another was an illegitimate child whose birth was concealed and whose body was found in a decomposing condition. The other 13 children were legitimate. Of the 17 children, 6 were males and 11 females. Of the 13 children of whom we have details, 4 were first pregnancies, 5 second pregnancies, 3 subsequent pregnancies and in the other there is no information. 2 were non-viable monsters, 1 died apparently from toxæmia of the mother, who had eclampsia, 2 were non-viable twins, but in the remaining cases no cause of death is known and the certificates were signed "prematurity," or "debility," or "inanition." 2 of these mothers had received ante-natal supervision.

DEATHS BETWEEN THE END OF THE FIRST DAY AND THE END OF THE FIRST WEEK.

17 such deaths occurred, against 5 for last year. 7 were males and 10 females. 10 were first pregnancies and the others subsequent pregnancies. 2 were illegitimate. 3 were non-viable malformations (spina bifida); 7 are certified as dying from congenital heart disease or malformations of the heart, but in two only of these can the diagnosis be said to have been substantiated; the remaining 7 are reported to have died from prematurity or debility. 2 of the mothers had received ante-natal attention.

DEATHS BETWEEN THE END OF THE FIRST WEEK AND THE END OF THE FIRST MONTH.

8 such deaths occurred, against 4 for last year. 3 were males and 5 females. All were legitimate. 3 were first pregnancies and the others subsequent pregnancies. 5 were breastfed. Of these, 1 is reported to have died of congenital heart disease, 1 died of pneumonia, possibly whooping cough, 1 died of infantile diarrhoea due to maltreatment and the other 2 died without any assignable cause, though one of these was a seventh month child who was probably not viable. Of those who were not breast fed, 2 were a pair of premature twins not viable, and the other was a premature infant, also possibly not viable. 3 of the cases occurred in the practice of one midwife. 7 of these mothers had received ante-natal attention.

DEATHS BETWEEN THE END OF THE FIRST MONTH AND THE END OF THE FIRST YEAR.

19 such deaths occurred, against 23 for last year. 12 were males and 7 females. All but one were legitimate. 10 of the cases had not attended the Clinics and their previous histories are uncertain. 2 of these occurred in the practice of one midwife. 4 were breastfed, all of whom died of acute lung disease, of which one was for certain due to measles, one probably due

to measles and two due to whooping cough. 2 were fed on breast milk pumped off. These were a pair of premature twins. Of the 4 who had not been breast fed, 2 died of ill-feeding, 1 died from septicaemia and 1 was a case of spina bifida.

Of the 9 cases who had attended the infant Clinic, 5 had been breast fed. Of these, 2 died of acute bronchitis doubtfully due to whooping cough, 1 died of congenital syphilis, 1 died under operation undertaken for intestinal obstruction and 1 was a mongolian imbecile whose death is certified as being due to congenital heart disease, but there is proof positive that it had not that condition. 4 had been artificially reared, of which 1 died of broncho pneumonia of uncertain causation and the other 3 of ill-feeding. There is reason to be strongly suspicious that one, and mildly suspicious that another, had been helped out because they were not wanted. 9 of these mothers had received ante-natal attention.

DEATHS OF CHILDREN BETWEEN THE FIRST AND SECOND YEAR.

There were 8 such deaths, against 14 for last year; 4 males and 4 females. All were legitimate. 5 had not attended the Clinic. 4 of these had been breast fed, 2 of whom died of whooping cough, 1 of infantile diarrhoea and 1 of tuberculous meningitis. The 1 who had not been breast fed died of whooping cough.

All 3 cases who had attended the Clinic had been artificially fed. 2 died of measles and 1 of whooping cough.

DEATHS OF CHILDREN BETWEEN THE SECOND AND THE FIFTH YEAR.

11 such deaths occurred, against 12 for last year; 4 males and 7 females. 2 of these had not attended the Clinic. 1 had been breast fed and died from intussusception. The other had not been breast fed and died of diphtheria.

Of the 9 who had attended the Clinic, 7 were breast fed. 2 died of measles; 1 died of diphtheria; 1 died of cellulitis; 1, who was knocked down by a motor-car, died of a fractured skull; 1 was reported as dying of haemophilia, which is probably correct, though from the history of the child we know that she suffered from tuberculous glands; and 1 died of pneumonia, away from the town. 2 had been artificially fed. 1 of these, who was an imbecile, died of whooping cough, the other died of infantile diarrhoea.

DEATHS OF CHILDREN BETWEEN THE FIFTH AND THE TENTH YEAR.

19 such deaths occurred, against 6 for last year. 10 were males and 9 females. The histories of 2 of these children are not known to us. 1 died of diphtheria and the other of tuberculosis of the hip.

In the remaining 17 we have histories. 4 died of diphtheria; 1 is reported as dying from congenital heart disease, but it is obvious from the known history of this child that the disease could not be congenital and was rheumatic; 1 died of rheumatic endocarditis; another died of rheumatic heart disease; 1 died of pneumococcal septicaemia; 1 died of ulcerative endocarditis (rheumatic); 1 died of whooping cough; 1 died of measles; 1, a defective child, died of pneumonia of doubtful nature; 2 died of septic meningitis secondary to ear disease; 1 died of acute influenzal pneumonia; 1, a defective child, died of injury; and 1 died of acute polio myelitis.

DEATHS OF CHILDREN BETWEEN THE TENTH AND THE SEVENTEENTH YEAR.

18 such deaths occurred, against 7 for last year; 11 males and 7 females. In 3 of these the histories are not known, of whom 1 died of diphtheria, 1 of lobar pneumonia and 1 of rheumatic heart disease.

The histories of the remaining 15 are known to us. 1 died of an injury caused by a motor-car; 1 died of acute rheumatic endocarditis; 1 died after nephrotomy for calculus, an old tuberculous case; 1 died of diphtheria; 1 died of sarcoma; 1, a defective child, died of diabetes; 1 died of acute general tuberculosis; 1 died of rheumatic fever; 1 died of abdominal tuberculosis; 1 died of lymphadenoma; 1 died of meningitis due to ear disease; 1, a defective child, died of bronchitis; 1, a defective child suffering from congenital heart disease, died of tuberculous meningitis; 1 died of pulmonary tuberculosis; and 1, whose death was certified as being caused by influenza, was probably due to rheumatic fever.

DEATHS BETWEEN THE SEVENTEENTH AND THE TWENTIETH YEAR.

There were 7 of these, against 6 for last year; 2 males and 5 females. In 2 the histories are not known. 1 died outside the Borough from abdominal tuberculosis and 1 died from mitral stenosis, probably rheumatic.

Of the 5 whose histories are known, 1 died of influenzal pneumonia, a lad who was known to suffer from congenital

syphilis; 1 died of tuberculosis of the lungs; 1 died of tuberculous peritonitis; 1 died from operation for enlarged thyroid; and 1 died of pneumococcal empyema.

We shall deal with infantile mortality in a later part of the report. Here we are only concerned with the special factors of the year 1930. The infantile mortality rate, 62.82, is the most unfavourable that we have experienced for six years, though it still is reasonably low for an industrial town. The child mortality also was extremely unfavourable; in fact for child death 1930 was the worst year for which we have accurate records. When we analyse the evidence, we find certain points which are curious and of great interest. The high infantile mortality rate is dependent almost entirely upon increased natal death; the second moiety which makes up infantile mortality, namely, the deaths between the first month and the first year, was low. Extremely favourable was the toddler death rate. The school age rate was, however, very unfavourable. We find also, excluding the natal deaths, that the fatalities were mainly caused by the four great infections of childhood: measles, whooping cough, diphtheria and rheumatism, and that the number of children who fall out from all other diseases is comparatively small.

Table Showing the Causes of Deaths of Children under 20 years of age in the Borough of Swindon during the Year 1930.

CAUSE.	0-1	1-2	2-5	5-10	10-17	17-20	Total
<i>Pathologically Differentiated :</i>							
Congenital Defects	10	—	—	—	1	—	11
Congenital Syphilis	1	—	—	—	—	—	1
Measles	2	2	2	1	—	—	7
Influenza	—	—	—	1	—	1	2
Whooping Cough	5	4	1	1	—	—	11
Pneumonia	—	—	1	2	1	1	5
Diphtheria	—	—	2	5	2	—	9
Rheumatic Infection & Sequelae	—	—	—	4	4	1	9
Acute Tuberculosis	—	—	—	—	1	—	1
Pulmonary Tuberculosis	—	—	—	—	1	1	2
Tuberculous Meningitis	—	1	—	—	1	—	2
Other Tuberculous Diseases	—	—	—	1	1	2	4
Meningitis following Ear Disease	—	—	—	2	1	—	3
Intussusception	—	—	1	—	—	—	1
Polio Myelitis	—	—	—	1	—	—	1
Diabetes	—	—	—	—	1	—	1
Lymphadenoma	—	—	—	—	1	—	1
Septicaemia	1	—	1	—	—	—	2
Injury	—	—	1	1	1	—	3
Haemophilia	—	—	1	—	—	—	1
Toxaemia of Mother	1	—	—	—	—	—	1
Calculus	—	—	—	—	1	—	1
Sarcoma	—	—	—	—	1	—	1
Unviable Monsters	5	—	—	—	—	—	5
<i>Undifferentiated :</i>							
Prematurity	24	—	—	—	—	—	24
Illfeeding	6	—	—	—	—	—	6
Bronchitis	1	—	—	—	—	—	1
Diarrhoea	—	1	1	—	—	—	2
Under Operation	1	—	—	—	—	1	2
Unknown	4	—	—	—	—	—	4
TOTALS	61	8	11	19	18	7	124

NOTE —The death of every child under the age of 20 years is made the subject of inquiry, in which all matters connected with the medical history of the child are considered, and from the available evidence the conclusion is drawn as to what was the main factor which destroyed life. In the above table the deaths are given in accordance with these findings. They agree in number, but not in causes of death, with the official records.

Infection and Epidemiology.

EPIDEMIOLOGY.

The year opened with a very favourable Winter. Smallpox, which had been prevalent in the Borough during 1929, died out in December of that year and did not reappear in the Borough during 1930, though there was a diffuse outbreak of the disease in parts of Wiltshire. Whooping cough was present and continued as the chief dangerous disease during the first three months of the year, when it died out completely. There was no influenza in the Winter of 1930. Scarlet fever, which had been prevalent in epidemic form for two years, had reached the declining stage of the epidemic and died out about the middle of the year. The epidemic had been severe as regards incidence, but quite trivial as regards severity, no death having occurred during the epidemic, except one, which was a puerperal case and occurred at the end of 1930.

January was a favourable month, whooping cough being the only disease present in any numbers. There were two fatal cases of polio-myelitis during this month, which were the last cases of the epidemic which had occurred in the West of England during the late Summer, Autumn and Winter of 1929. An unfavourable feature at this time of the year was a number of cases of acute ear disease ending in meningitis and death. These cases were not directly connected with the scarlet fever outbreak, none of the cases having been attacked by scarlet fever during the present epidemic, nor were they connected with whooping cough. They might have been connected with a rather high incidence of insignificant puerperal pyrexia which was occurring about the same time.

March was another favourable month except for its high incidence of natal death. There was some mumps present, chiefly affecting adults, but it was not widespread. At the end of March there was nothing, either locally or in the general distribution of disease throughout the world, upon which could be formed any indications for the future.

In April there was evidence of an approaching high incidence of measles. One noted in this month that "an epidemic of measles is expected, reaching its height in the second week in June, but the indications are that its severity will not be great and that lung complications will not be numerous." This forecast was fulfilled. Diphtheria began to cause increasing anxiety. As has been stated on many previous occasions, there are no diphtheria carriers in Swindon and the cases that occur can generally be traced to outside sources; but it was presumed that the state of immunity of the population towards diphtheria was

exceedingly low and that an epidemic of the disease was to be expected. In the early months of the year, however, though we had many introductions of diphtheria of an extremely fatal type, the disease did not spread.

May showed the beginning of the expected epidemic of measles. There were several introductions of diphtheria, all serious, but these did not spread, though it was becoming clear that an epidemic of diphtheria would occur in Swindon and would be centred in the Gorse Hill district.

July was a very quiet month. The epidemic of measles died out as was expected. Scarlet fever had ceased to be present in epidemic form and for the rest of the year gave us nothing more than a few sporadic cases. Diphtheria caused great anxiety, but there was no further evidence bearing upon the expected epidemic. There was a fairly high prevalence of mild puerperal pyrexias and of ophthalmia in new-born infants.

August was quiet, but towards the middle of August the epidemic of diphtheria started in the part of the town where it was expected. There was some increase in pneumonia of the June epidemic type during this month. About the end of September the epidemic of diphtheria began to take definite shape. The type was severe, but not so severe as had been that of the sporadic cases in the earlier part of the year. On the 14th October an outlook was issued regarding the expected prevalence of diphtheria. The chief essentials of the forecast were that the disease would remain epidemic in Swindon until the middle of March, that the number of cases expected was an average of five per week, that its maximum brunt would be borne by the Gorse Hill district and that though cases were expected to occur in other parts of the town, they would not spread. This forecast proved to be accurate.

An acute fulminating case of cerebro-spinal meningitis occurred in the Borough in September and, it may be mentioned in passing, that another occurred in January, 1931.

The conditions in October gave rise to some anxiety and in the early part of November a crop of cases of virulent influenzal pneumonia, all fatal, the victims being mainly adult males, caused much anxiety regarding the health of the town during the Winter. This point, with several other factors which cannot be given here, enabled us to forecast an epidemic of influenza in the town during the month of February, 1931. The details of this forecast were that the outbreak of fatal influenzal pneumonia of mid-November would collapse as suddenly as it arose, that it would be followed later in Autumn by increased prevalence of diarrhoea and indefinite abdominal disease, that December and the major part

of January would be healthy and free from influenza, but that that disease would assume epidemic prevalence towards the end of January or beginning of February. This forecast also proved to be accurate in all details. Except for the continuance of the epidemic of diphtheria, December was a quiet month.

The foregoing account of the epidemiology of Swindon in 1930 may read rather strange, for it sounds as though the author set out to be a prophet. He has not such pretensions, but does claim to be able to make deductions from evidence and probabilities. It has been the custom for many years to forecast the future health of the town, both as a biological study and because of the very obvious advantage that accrues from knowing what is going to happen. Many, perhaps most, of the forecasts prove to be accurate, some extraordinarily accurate even to minute details; some cannot be said to be accurate even with quibbling, and others are entirely wrong. As these forecasts are given in detail, month by month, to the Health Committee and are printed in the minutes, it is not possible to equivocate with them. Nor is it desired to do so, the whole object being to test the validity of the premises upon which the forecasts are made. This evidence is partly local and partly universal. It is essential to know as far as possible what disease is doing in all parts of the world, where infectious disease is starting, how it is spreading and how it is varying in type, and to visualise what would happen should it appear locally. If we could have a perfectly accurate diary of disease as it occurred in the town, accurate forecasts, not only in connection with the chief epidemic diseases, but probably with many diseases not in general considered to be infectious, might be made and no doubt in the future we shall be able to do this at least as accurately as we can now forecast the weather.

DIPHTHERIA.

115 cases of diphtheria were notified, of which 3 were withdrawn, 1 was a second notification and 12 did not have the disease, giving 99 genuine cases, but 1 of the cases withdrawn was a native of Swindon who developed the disease outside and was sent back to Swindon Isolation Hospital, so that there were really 100 cases. 9 cases died. This gives the very high mortality of 9%, but the disease was exceedingly virulent, particularly amongst the early sporadic cases.

When the epidemic started, an immunising campaign was inaugurated, the details of which up to the end of the year are given in the appendix, but the history of the epidemic, which presents some extraordinary features, belongs more to 1931 than to 1930 and will be dealt with in detail in next year's report.

SCARLET FEVER.

There were 106 notifications of scarlet fever, of which 1 was withdrawn and 5 did not have the disease, leaving exactly 100 genuine cases. The only death which occurred was that of a puerperal case which died after anæsthetic for operation. The disease generally was mild, but it must be admitted that it was by no means so mild as it had been during the height of the epidemic. It is always found that as an epidemic declines, the severity of the cases increases and they tend to become less typical and more complicated. This happened throughout the country in the latter part of 1930, when the big wave of scarlet fever which had swept over Northern Europe during the past five years showed signs of collapsing. Whether it is any indication that future visitations of scarlet fever will be more severe than those of the immediate past is a question which is exercising the minds of epidemiologists.

PNEUMONIA.

There were 105 notifications of pneumonia, the lowest number since 1924, the first year for which accurate statistics are available. This number, 105, is only about 60% of the average. The cases can be roughly divided into five groups: Whooping cough pneumonia, most prevalent in the first quarter; measles pneumonia, most prevalent in the second quarter and beginning of the third; influenzal pneumonia, mainly limited to November; and a crop of miscellaneous types, chiefly of the June epidemic type, occurring mainly in the Summer months. 40 of the cases died, so its fatality was exceptionally high. It is, however, only amongst the cases admitted to the Isolation Hospital that it is possible to work out types and fatality rates, as with the cases who died at their own homes the evidence is not sufficient for the purpose.

THE PNEUMONIAS.

The statistics for Pneumonia for the past ten years are as follows:—

Year.	Total No. of cases notified.	Total No. of deaths.	Cases removed to Hospital.			Cases treated at Home.		
			No.	Deaths.	Death Rate.	No.	Deaths.	Death Rate.
1921	36	19	...	...	...	36	19	52
1922	156	43	1	0	0	155	43	27
1923	68	28	12	0	0	56	28	50
1924	175	62	31	5	16	144	57	46
1925	204	61	50	10	20	154	51	33
1926	172	52	27	6	22	145	46	32
1927	202	58	63	14	22	139	44	31
1928	204	53	66	16	24	138	37	27
1929	176	54	52	11	21	124	43	34
1930	105	40	44	12	27	61	28	46
10 years.	1498	470	346	74	21.4	1152	396	34.4

THE INFECTIONS DUE TO PARASITES BELONGING TO THE GENUS BACTERIUM.

These infections were totally absent from the town during 1930, as they had been during 1929.

THE VIRUS DISEASES.

There were 3 notifications of polio myelitis, two fatal and one trivial case notified late. They were the remains of the epidemic of the Autumn of 1929. There was no encephalitis lethargica and no smallpox, but chickenpox was prevalent in the early part of the year. It was notifiable up to 11-3-30. During the period that it was notifiable there were 146 cases. In the latter part of the year the disease ceased to be prevalent. One fatal case of cerebro-spinal meningitis was notified.

MEASLES AND WHOOPING COUGH.

Measles, which had been absent from Swindon during 1929, became epidemic in May, 1930. The epidemic was not extensive, but it was the cause of seven deaths. It died out in July and did not reappear during the rest of the year.

Whooping cough, which had been epidemic in the Autumn of 1929, continued epidemic prevalence during the first three months of the year and caused eleven deaths.

TUBERCULOSIS.

The number of new notifications of pulmonary tuberculosis was 41, which is very considerably lower than that of any year since 1914. The deaths from respiratory tuberculosis were 37, which is considerably more than last year or in 1926, but, with these exceptions, are the fewest recorded. The deaths from tuberculous meningitis were 3, the same as last year and a favourable figure. The deaths from other forms of tuberculosis were 12, against 1 for last year, and gives the largest number of deaths from other forms of tuberculosis since 1914.

The new notifications of non-pulmonary tuberculosis were 45, which is a high figure, but of these no less than 17 were notifications of tuberculosis of the abdominal glands discovered at operation.

The numbers of cases of tuberculosis left on the register at the end of 1930 were 147 pulmonary and 78 non-pulmonary. These numbers are very low, but their reduction from former years is not altogether genuine, as at the end of 1930 all cases on the register were re-considered and more than usual were struck off, either as being clinically cured, or as not suffering from the disease. The position of the town as regards tuberculosis in 1930 was distinctly favourable. The most important figure upon which to judge progress is the number of new cases of pulmonary tuberculosis and this, as we have seen, was low. The deaths, which were high, do not very much affect the position, because these will be mainly cases notified in previous years and tell us what tuberculosis has done, rather than what it is doing at present. The high notification figure of other forms of tuberculosis is much complicated by the notification of enlarged glands found during abdominal operations. In these days, when abdominal section has become a ritual, it will naturally occur that when nothing else can be found, search will be made for tuberculous glands. Since we know from post-mortem examinations that some 70% of bodies of persons who have been presumably healthy show tuberculous glands, it follows that now abdominal section is common a great number of these glands will be discovered during life which in past years would have escaped detection. There is in the majority of these cases not sufficient reason for considering that the patients are suffering from clinical tuberculosis and unless the abdominal operation lights up the disease, which we know that it does do occasionally, it is probable that the presence of such glands is of no clinical importance.

The problem of tuberculosis is essentially different from that of the acute infectious diseases in which cure occurs through the establishment of immunity. We know that the majority of persons in a civilised community are infected with tuberculosis at some time or another and that the disease does not produce immunity, so that, strictly speaking, something between 70% and 80% of the population has been attacked by, reacted to, and remains sensitive to, tuberculosis. In the majority, the infection remains shut off and of no particular danger unless something occurs to break down the barrier.

Notwithstanding the vast amount of attention that has been given to tuberculosis, more particularly since the War, the position at present is not one which satisfies epidemiologists. It is impossible to get the grasp of tuberculosis that can be obtained of all other notifiable diseases. Much of the difficulty is due to elaborate registers which do nothing but confuse the issue. The latest Tuberculosis Order of 1930, however, offers some hope of clearing the position and, at last, enables us to obtain and to keep in a form that can be utilised, the statistical information

which is essential in order to understand the variations of the disease. In Swindon, many attempts have been made to come to grips with the epidemiological problems of tuberculosis, but they have not met with success. Another attempt is now being made which is more promising.

No action was taken under the Public Health (Prevention of Tuberculosis) Regulations, 1925, as no cause for action occurred, and no action was taken under the Public Health Act, 1925, Section 62.

CANCER.

There were 97 deaths from cancer, against 91 for last year and the year before. During the last few years there has been a distinct slackening in the increase of cancer and most of the actual increase that has occurred can be accounted for by the alteration in the average age of the population.

DIABETES.

10 deaths occurred in 1930, against 13 in 1929.

SURVEY
FOR THE
Years 1926-1930.

SURVEY FOR THE YEARS 1926-1930.

The following brief history of the public health services in Swindon during the past quinquennium and critique of its various functions, is intended to give an idea of the extent of, and lines along which, they have developed. It will afford the opportunity of calling attention to what is satisfactory and what is unsatisfactory and of fixing the attention of the inhabitants of Swindon upon certain of their social functions in which they have not made that progress which they should have made. In judging the state of the public health service and of the energy shown in developing it, attention must be paid to all details and an opinion passed, not upon isolated factors, but upon the general movement. More important than knowing where we stand is to know in which direction we are going and to what extent we have left behind us the unsatisfactory features of the past.

Local developments must be governed by local factors. Basically, they are dependent upon the progress made in public health science and the development of the national sanitary code, for, in England, public health is essentially a State rather than a local function. But since the coming of the Ministry of Health, it has been recognised in practice that though Whitehall gives the principles of public health, the local authorities are expected to develop them in accordance with their special needs. Moreover, legislation must of necessity be somewhat belated; if sound, it is itself dependent upon experiment and the experiment must be made before there is legal sanction for making it.

Though the English sanitary code is extremely voluminous and the legal powers conferred on local authorities and their officers considerable, there is a growing tendency to base public health practice not upon law, but upon the voluntary or semi-voluntary action of communities, and instead of force to rely upon education. So, though the law is always there and can be enforced, it is seldom utilised and even where the sanitary authority and its officers can compel under penalty, they prefer to reach their object by persuasion.

The development of the public health service in different localities varies considerably according to many local factors: the nature of the population and its industries, the degree of prosperity and of fixity of the population, the political ideas of the people and of their elected representatives, and the personality of the chief officer of the health department. All these variants lead to embellishments of what might be called the standard base of sanitary administration and development. They tend to variety of experiment and to noticeable differences between the methods in vogue in different districts, or at different

times. To ensure the diffusion of knowledge of successful experiment, there has grown up in our system of public health administration an unofficial method of keeping health workers in touch with each other and, through the media of conferences and meetings, to provide the opportunity for the ventilation of differences of opinions, of successes and of failures. The net result of this method has been a steady and rapid improvement in public health administration, with a corresponding improvement of the health of the community. Though no two districts will progress in precisely the same manner under our system, it is expected that all will progress and that their records will show continuous improvement.

There is no social development which does not in some way affect the health of the people. The health department itself is mainly concerned with factors whose avowed object, or whose principle object, is the improvement of the public health, but there are many other functions which affect the position, some of which are actually of more importance than the special measures which have health as their sole objective. For example, there is reason to believe that the change from horse to motor traffic in stamping out infantile diarrhoea has had greater influence upon infantile mortality than all of the medical measures taken for this purpose put together. An increase in unemployment or a diminution of wages which reduces the money available for food below the full nutrition line, has greater effect on the health of the community than an epidemic; a change of fashion in dress may influence to a significant extent the respiratory death rate, the most sensitive index of the health of the community; whilst a difference in the philosophical or moral attitude of the population towards reproduction may, as there is reason to fear is happening at present, produce greater damage to health than our special endeavours to improve it can overcome.

The health services which are more directly under the control of the health department fall into three categories: first, the general sanitation of the district, including its water supply, its drainage and sewage, its scavenging, the control of its water courses, of smoke, of streets and of buildings. These services are but little under the control of the medical officer of health. They have become questions mainly for experts in sanitary engineering, and in most modern towns are under the direct control of the borough surveyor. It is important, however, that the medical officer of health should not lose touch with these services, for there are occasions when it is necessary for him to take very special interest in them and he should always be in a position to advise the sanitary authority and their other technical experts in regard to these services which, in the main, have passed from his purview. The second series of functions are those which

belong more particularly to the sanitary inspectors. They deal more with domestic than with communal matters: housing, the cleanliness of premises and the supervision of the food supply. All these matters are highly important. The sanitary inspectors must be experts in their particular side of the business and over them the medical officer of health must exercise more than mere supervision. The third function of the health department is entirely the work of the medical officer of health and his medical and nursing assistants. It deals with the general and individual health of the citizens, with the prevalence of disease and the methods required to prevent it, and also with the utilisation of the methods of curing disease which either cannot be, or has not been, prevented.

EPITOME OF PUBLIC HEALTH HISTORY OF THE BOROUGH, 1926-1930.

1926.

A scheme for the improvement of the Waterworks at Ogbourne and purchasing of additional land at Poughcombe for additional adits or wells, as required, was approved.

Further improvements in the chief sewage works at Rodbourne were carried out, including the replacement of the pumps, which were insufficient for their purpose. The number of humus tanks was increased.

Attention was paid to the littering of the highways with waste paper, etc., and wire baskets were provided to try to educate the people to keep their town clean.

Considerable progress was made in the renovating and improvement of private property, but progress was not so rapid as it might have been, owing to the difficulty of obtaining, and the expense of, material.

Discussion on the hospital system in Swindon was very much to the fore in this year and the G.W.R. Medical Fund Society started to build their temporary hospital. Conversations regarding the advisability of building a new maternity hospital also took place.

The year generally was favourable and progress in the Medical Department fairly steady. There was a sharp outbreak of influenzal pneumonia in November.

1927.

There was a somewhat severe epidemic of influenza in the Winter of 1927. In June there was considerable prevalence of pneumonia of the June epidemic type and in August there was a small outbreak of pneumonia of an exceedingly fatal type.

The Town Council petitioned for the extension of the Borough boundaries.

A re-organisation of the sanitary conveniences of the town was undertaken and four up-to-date conveniences for both sexes were erected in the town.

There were further improvements made in the main sewage works.

During this year several of the wells in Old Swindon were closed.

In this year all meat slaughtered for human consumption in the Borough was seen by the sanitary inspectors and considerable attention was given to the milk supply, notably by instituting systematic bacteriological examinations.

The child welfare scheme was consolidated by offering all the provisions to any child in the Borough and abolishing what had remained of the distinction between school children and others.

At the end of October there was an outbreak of food poisoning limited to one household. This is the only outbreak of food poisoning which has occurred in Swindon during the past ten years, though several reported outbreaks have been investigated and proved not to be genuine.

1928.

This was the record year of health for the Borough.

The epidemic of scarlet fever started in August.

Towards the end of the year the epidemic of smallpox started.

In October, 1928, the Borough boundaries were extended, the Swindon and District Hospital Board abolished and the Isolation Hospital taken over by the Borough Council.

In December the Borough took over the Training School for Midwives which up to that date had been run by the Wilts Nursing Association.

1929.

1929 was an exceedingly difficult year for public health work. Smallpox was epidemic throughout the Borough throughout the year, as also was scarlet fever. A moderately severe epidemic of influenza occurred in the Winter and polio-myelitis in the late Summer.

1930.

This was another difficult year, though disease prevalence was generally low.

The new Maternity Hospital was started in the late Summer and in the Autumn the Administrative Block at the Isolation Hospital was re-constructed.

On October 1st the Borough became the Supervising Authority under the Midwives Acts.

The hospital question loomed largely during 1930. Victoria Hospital opened the new wing on November 6th.

The coming into force of the Local Government Act, 1929, did not materially affect the health services of Swindon, though indirectly it should do so in the near future.

Towards the end of the year the Council decided to proceed with a scheme of obtaining a new supplementary water supply from Latton.

GENERAL PUBLIC HEALTH AND SANITATION OF THE TOWN.

WATER SUPPLY.

In the survey report for 1925 we published a somewhat elaborate critique of the water supply of Swindon as it then was and as it still exists. But little need be added to this. The position at present is exactly as it was at the end of 1925. Since that date no complaint of any importance has been made in relation to the quality of the water and on no occasion has the town water supply fallen under any suspicion.

The only new fact regarding Swindon water which we have to record is that the iodine content of the mixed water was determined for us by the Rowett Institute of Aberdeen. The iodine content of Swindon water is 0.05γ per litre. This is the lowest of any water in Great Britain. This point is of interest in connection with the prevalence of goitre in Swindon, though,

as it has been pointed out on many occasions, the high incidence of goitre locally is not directly connected with the lack of iodine in the water supply.

As regards the quantity of water available for Swindon, matters are not so satisfactory. There was plenty of water for the immediate needs of the district for the first three years of the quinquennium, but in 1929 matters began to look serious, as towards the end of the Summer both sources of supply showed signs of failing. Some restrictions on the use of water had to be imposed and plant was erected for the utilisation of the water at Coate, a reservoir on the old canal, for drinking purposes. It was, however, only necessary to use a very small amount of Coate water during the Autumn of 1929, and in the latter part of the year and during 1930 the supplies from Ogbourne and Wroughton were sufficient. But it has been recognised for some years that the existing water supply is not sufficient for the development of the town and that further sources of supply must be found.

The Waterworks Committee have been considering this matter for several years. It is no part of the business of the Medical Officer of Health to concern himself with the various ideas and suggestions which came before the Waterworks Committee for consideration; he is only concerned with the facts that a further supply was necessary and that eventually, in 1930, the Waterworks Committee had found a remedy. This remedy is to obtain a supply of water from Latton, in the Thames watershed. Latton is about nine miles from Swindon and from this source is promised an abundant supply of a water which is very pure, and of similar hardness to the waters of Ogbourne. The scheme for obtaining water from Latton has now been sanctioned by the Ministry of Health and the work will be put in hand immediately. It is reckoned that it will furnish up to 3,000,000 gallons per day, take between two and three years to complete and cost £120,000.

There were in Swindon several wells in the upper part of the town. Cutting right across Swindon hill there is a boggy stratum which contains much water. In former years this water was the main supply of the district, but it has long since been disused and is now merely a nuisance. However, there still exists, or did until recently, several shallow wells sunk into this stratum for the supply of water which was used for domestic purposes. Analyses of water from these wells showed, as might be expected, that the water is utterly unfit for consumption and all these wells, with the exception of two which are at present under condemnation, have been closed. In Rodbourne Cheney, which was taken into the Borough in October, 1928, there are also some shallow wells which are being dealt with as the public water supply is available for every house in the Borough.

WATER COURSES.

The only water courses existing in Swindon at the present time are the River Ray and the River Cole. These streams, as regards size, are of no consequence, but the Ray takes the effluent from the Swindon Sewage Works and eventually finds its way into the Thames. The condition of this stream is mainly the concern of the Thames Conservators.

In former years Swindon was practically cut in twain by the old Wilts and Berks Canal. For many years this canal supplied much food for controversy in the Town Council, much disturbance to the Medical Officer of Health and an Elysium for mosquitoes and sundry other obnoxious beasts which we can forget. Most of this canal is now filled in and the rising generation of Swindonians only know of it as a tradition; but in one part of the town, a fragment of it still remains, awaiting the oblivion which has overtaken the major portion.

Since the lower part of Swindon is built on a bed of Kimmeridge clay, which is as impervious as india rubber, and since in former years there was a good deal of quarrying done in what are now integral parts of the town, Swindon has been troubled, and still is to some extent, by ponds. We shall not say anything of those ponds and their somewhat unsavoury history which have vanished, but we are interested in the future of those which still remain. They have all got to go and the going of a pond is apt to be a somewhat malodorous business, unless it is looked after properly. There is no doubt, however, that the abolition of these ponds is not an easy business. Owing to the conformation of the strata, it is impossible to drain them, so they have to be filled in. In theory, coke, or breeze, or clinker is ideal for filling in ponds, but financial consideration generally dictates that less desirable material must be utilised.

DRAINAGE AND SEWAGE.

SEWERAGE WORKS AND SEWAGE DISPOSAL WORKS.

Owing to the inadequate discharging capacity of the outfall sewer from Evelyn Street to the Broome Sewage Works, the Works and Streets Committee decided in 1926 to lay a new sewer in land adjoining Marlborough Lane and, at the same time, it was considered advisable to make provision for the sewerage of the Coate Road area of the Borough, which at this date was in process of development. Accordingly sewers were laid down Marlborough Road and Broome Manor Lane which are capable of taking the drainage from a population of 5,400 over a drainage area of about 90 acres.

SEWERS—HOUSING SITE.

During the past five years extensions to sewers have been made on the Hurst Estate for the development of the site. These sewers are taking the drainage of 316 houses. In addition to the foul water sewers there are surface water sewers taking the rainwater from the fronts of the houses and the roads into the stream which passes under Pinehurst Road.

A notable feature in the recent development of the Borough has been the scheme for sewerage the Rodbourne Cheney district of the Borough. This scheme is of considerable magnitude and consists of 6.4 miles of sewers of various sizes and two small pumping stations. These sewers are capable of dealing with the sewage from a population of 25,000 over a drainage area of about 600 acres.

SEWAGE DISPOSAL.

In 1927 it became evident that the Rodbourne Sewage Disposal Works, additions to which were designed in 1914 and completed in 1923, required further additions to meet the growth of Swindon. As a result of the Council's deliberations it was decided to extend the Rodbourne Sewage Disposal Works to secure a good effluent from the present flow of sewage and at the same time to make adequate provision for an estimated increase of population over the next decade.

The main features of these extensions are a detritus tank, screening and dredging plant, intermediate settling tanks, 17 percolating filters with humus tanks. The total number of percolating filters available for use is now 38.

The extensions were completed in February, 1930, since when the production of an effluent of a good standard has been consistently maintained.

COLLECTION AND DISPOSAL OF REFUSE.

The household refuse of Swindon is now collected in S.D. Freighters, except in a few parts of the town where a horse-drawn cart is used as being more economical. Sanitary dustbins are now enforced for every house in the Borough. The rubbish is disposed of on tips. For the past five years there have been no serious complaints, either of the tips or of the method of removal and disposal of refuse.

CLOSET ACCOMMODATION.

Every house in Swindon is supplied with a water closet, though there are still a number of water closets which are not

provided with flushes. Most of these are kept perfectly clean and give rise to no offence, but they are obsolete in a town and should be supplied with proper flushing tanks. This would have been done some years ago had the water supply of the town been as abundant as we could wish. As soon as the supply of water from Latton is available, it will be feasible to insist that every water closet in the town is provided with a proper flush.

HOUSING.

From much that is heard locally, one would be lead to suppose that housing was one of the most unsatisfactory features of the Borough of Swindon; but this is entirely erroneous, for the housing of Swindon is exceptionally good for an industrial town. Perfect it most certainly is not and there are many directions in which it can be and must be improved, but compared with the majority of the industrial towns of Britain, the general level of housing must be considered satisfactory and the town contains no slums nor insanitary areas. The original planning of Swindon was atrocious. Formerly there were two urban districts: New Swindon and Old Swindon. The planning of Old Swindon was probably determined by sheep runs and it was bad; that of New Swindon by jerry-builders and that is worse; but the planning of the modern parts of the town is excellent and many improvements have been effected in the older parts to relieve some of the worst features. Unfortunately, street improvements are prohibitive in cost and though it would be possible to replan the older parts of the town, it would not be possible to give effect to the plan without the expenditure of vast sums of money.

The work of house-to-house inspection and of the remedying of nuisances which can be dealt with under the Public Health Acts will be dealt with by the Sanitary Inspector in his report. There are no houses in Swindon that are unfit for habitation and could not be made fit at a reasonable cost. There are a few in which the cost of repair would be so considerable that it might be advisable to demolish them, even though such a course is not absolutely necessary, but, in general, nothing is wanted except such ordinary repair work as is required from time to time on all property.

During the five years, 1,361 new houses were erected in the Borough, of which 121 were erected by the Corporation and 1,240 by private enterprise, in addition to which 121 were erected on the Corporation's Housing Estate at Hurst between the 1st January, 1926, and the 1st October, 1928, when the Estate was taken into the Borough. During the same period the population

of Swindon is believed to have increased by 5,140, so that the number of new houses is considerably in excess of that required to take up the increased population and, in theory, allows a very good margin to re-house those who were living in overcrowded or in insanitary conditions. But it is well-known in connection with housing problems that what sounds all right on paper goes all wrong in practice and however many houses may be built, the problems of overcrowding and insanitary dwellings remain unaffected so long as overcrowding is allowed and insanitary dwellings remain standing. The amount of overcrowding in Swindon is not great, but it shows little tendency to diminish, because as soon as an overcrowded tenement is relieved, the process of overcrowding starts afresh. Even in Council houses let to selected tenants under agreement that they will not sub-let, difficulties arise. We can prevent a tenant from taking in strangers, but we cannot prevent him from giving shelter to his mother or father, and, by extension, to his two grandmothers, two grandfathers, uncles, aunts and cousins. It is extraordinary how many houseless relatives a man who possesses a house seems to pick up. Of course, theoretically in law, we can deal with this, but in practice it offers very considerable difficulties.

In accordance with the terms of the 1930 Housing Act, Swindon has submitted a scheme for the next five years. The proposals are as follows:—

500 new houses to be erected, 50 of which are to be allocated to the Public Health Department to re-house persons who might be displaced by closing or demolition orders against the houses they now occupy.

SCHOOLS.

There are in the Borough of Swindon 16 elementary schools and 3 secondary schools. Two of the elementary schools are not provided by the local authority. The water supply to all the schools is from the town water supply and they are drained into the town sewers. Their sanitary condition is generally good, though in some the sanitary conveniences are not up-to-date, and are receiving attention from the Education Committee. The Board of Education keeps several lists of schools which are not efficient, but as no Swindon school appears on any one of these lists, the presumption is that they are passably efficient according to the standard which satisfies this country.

With the exception of the Commonweal Secondary School and the Infants' Department at Ferndale Road Elementary School, which are modern in type and good in construction (though neither is faultless), the remaining schools in Swindon are all of

obsolete type. The two least efficient from the point of view of the buildings are the Church of England School and Queens-town Infants' School, but these are the oldest buildings. The remaining school buildings are more or less efficient for their purpose. The Education Committee is considering the re-organisation of the schools, which includes some additional new schools and considerable modification of those which at present exist, so that, at the present time, it would not be advisable to give any detailed criticism of the buildings as they are at present, especially as from the general public health point of view the buildings are passably satisfactory.

The report on the health of the scholars and the work of the School Medical Department appears in a separate report.

INSPECTION AND CONTROL OF FOOD STUFFS.

The County Council is the authority for carrying out the provisions of the Sale of Foods and Drugs Act and of the Tuberculosis Order, but the Borough administers the Public Health Acts. The best that can be said of the control of food in Swindon is that all is done locally that can be enforced by law. Satisfactory this is not, for it is unfortunately true that in the handling of food stuffs and the control of human feeding the law of England is obsolete, if not barbaric. Everywhere those who have to deal with food stuffs, or with feeding the population, take hygienic measures which cannot be insisted upon by law, but in Swindon there is not so much of this voluntary action amongst purveyors as is desirable, or as might be expected. Unfortunately, though very fine attempts have been made to introduce legislation dealing with feeding in this country, which would bring us somewhat within measurable distance of countries which are more civilised in this respect, they have mostly ended in compromises which irritate everybody and safeguard nothing. An exception to this is the Public Health (Preservatives, etc., in Food) Amendment Regulations, 1926, which were carried in the face of opposition, which do safeguard food against adulteration and the use of preservatives and which, in practice, have worked with perfect smoothness.

We have a code dealing with the milk supply, which is so elaborate that few profess to understand it, and also a tremendous code dealing with meat, which consists mainly of compromises and prevarications. The people in this country seem quite indifferent to the way in which their food is handled and until they wake up and insist upon reform, there is little hope of our obtaining legislation for dealing with food stuffs which is in accord with the principles of elementary hygiene and cleanliness. So long as the people will consent to eat bread which is

delivered unwrapped, fouled by dirty hands and occasionally with road dung; milk supplied by the open method, where it is exposed to all forms of contamination; and meat that has been exposed to flies, dust, dirty handling and, occasionally, much greater dangers; cooked meats that escape infection with the germs of food poisoning by lucky accident rather than design, the methods of dealing with food in this country will remain a disgrace to our civilisation.

So far as anything can be done, the Swindon Health Committee insists upon it being done. They have certain powers over milk shops and dairies, very limited powers over butchers' shops, complete powers to prevent the sale of food which is diseased or unsound and the right to grant or refuse licences for slaughterhouses or milk premises. There are 20 slaughterhouses in Swindon: 8 registered and 12 licensed. These slaughterhouses are inspected regularly and frequently, and all meat killed in Swindon is seen by the Sanitary Inspectors before it is released for consumption. Legally it is impossible to find fault with the slaughterhouses, but aesthetically it must be admitted that they suggest dens to which beasts are lured to be murdered, rather than premises where man uses his science to minimise what must be an unpleasant and somewhat messy business.

The question of building a public abattoir has been before the Health Committee on many occasions, but has never got very far owing to the expense involved and the difficulty presented by the number of registered slaughterhouses. It is impossible to press for the provision of a public abattoir unless the citizens themselves demand it. This they will not do at present, for they are, in general, quite indifferent to the horrors they allow and will put up with much that is repulsive because they are ignorant of its existence.

MIDWIVES.

Swindon became the local supervising authority in October, 1930. The number of midwives practising in the area at the end of the year was 12. The Local Authority possesses the Maternity Hospital, connected with which is a training school for midwives with an extern practice. Of the midwives on the register, 5 are servants of the Corporation and do no private work.

MATERNITY AND NURSING HOMES.

On the 1st October, 1930, Swindon became the authority for carrying out the Nursing Homes Registration Act, 1927. No new applications for registration were received from the 1st October to the end of the year.

Particulars of the Homes at present on the register are as follows:—

Name of Home.	No. of cases for which accommodation is available.	Class of cases taken.
" The Haven " Maternity Home	3	Maternity. Occasional general cases (clean only) are taken when no maternity work is booked.
Cheriton Nursing Home ...	12	2 beds for Maternity cases ; the remainder for general.
Glenwood Nursing Home ...	12	General & occasional Maternity.
Padstow Cottage ...	2	General Nursing.

HOSPITALS.

The following table will give a bird's-eye view of the hospital accommodation in Swindon:—

HOSPITALS WITHIN THE SWINDON BOUNDARY.

Name of Hospital.	Situation.	No. of beds.	Class of cases received.	Owned by.
Swindon & North Wilts Victoria Hospital.	On the top of Swindon hill.	28 for males. 34 for females. 6 private wards. 12 cots.	General medical and surgical.	Voluntary. Managed by a Committee.
G.W.R. Medical Fund Hospital (Temporary Structure).	In the centre of the Town.	16 for males. 18 for females. 6 cots.	General surgical.	G.W.R. Medical Fund Society.
Infectious Diseases Hospital.	In the North of the Town.	70 beds.	All infectious diseases, whether notifiable or not, except ophthalmia neonatorum and tuberculosis.	Swindon Corporation.
Maternity Hospital. (A new Maternity Hospital of 24 beds is being opened early in 1931)	In the centre of the Town. (The new Hospital is at the top of Swindon hill, opposite the Victoria Hospital).	11	Maternity, Ante-natal, and a small number of ailing infants.	Swindon Corporation.
V. D. Hospital. (Staffed by, & run in conjunction with, the Infectious Diseases Hospital).	In the same curtilage as the Infectious Diseases Hospital.	6	Venereal Diseases, Ophthalmia Neonatorum and Pemphigus Neonatorum.	Wilts County Council.

STAFF OF THE INFECTIOUS DISEASES HOSPITAL.—

The Medical Superintendent is the Medical Officer of Health of the Borough, who has the assistance of the Deputy and Assistant Medical Officers of Health. The nursing staff consists of a Matron, two Sisters, three third-year probationers, three second-year probationers and three first-year probationers. The Medical Superintendent is empowered to call in any Consultant whose help he requires. For throat, eye, or gynaecological work he employs the services of the consultants officially appointed by the Corporation, but for special cases, such as nervous, mental, etc., he employs whom he considers has the greatest knowledge of the special points involved. The former class is paid by fixed fees. In the latter, the fee is arranged between the Consultant and the Medical Superintendent, subject to the sanction of the Committee.

STAFF OF THE MATERNITY HOSPITAL.—The Medical Officer of Health of the Borough is also Medical Superintendent of the Maternity Hospital. The medical staff consists of a rota of general practitioners. The nursing staff is composed of a Matron, three Sisters, a Staff Nurse and eight pupil midwives. An extern midwifery service is run in conjunction with the Maternity Hospital. The Consulting Gynaecologist is Mr. J. Sydney Rowlands, M.D., F.R.C.S., who is paid by fees on a fixed scale.

There is a hospital under the Public Assistance Committee of the Wilts County Council just outside the Borough boundary, accommodation available as required; and two Sanatoria for tuberculosis within the County of Wilts, in which Swindon patients are accommodated, accommodation available as required. The G.W.R. Medical Fund Society has an arrangement for sending their patients to various general and special hospitals, sanatoria, convalescent homes, etc. There is an agreement between the Education Committee and the Maternity and Child Welfare Committee with Bath Orthopaedic Hospital, to give orthopaedic treatment to Swindon children; accommodation limited at present. There is a Smallpox Hospital, six miles out of Swindon, belonging to the Wilts County Council, which satisfies the needs of the town as regards smallpox.

The local hospital question and its history during the past five years will be dealt with later in the report.

NURSING IN THE HOME.

There is a voluntary District Nursing Association in Swindon which employs two nurses, but no co-ordination exists between the Nursing Association and the Sanitary Authority. No special

arrangements are made in Swindon for the nursing of infectious diseases at home, because locally it is so much easier, more convenient, cheaper and more satisfactory to treat such cases, whether notifiable or not, in the Isolation Hospital; but in times of stress the Health Visitors, and sometimes the School Nurses, are utilised for giving such help as they can to cases of infectious disease which cannot be removed.

MATERNAL MORTALITY AND PUERPERAL PYREXIA.

Complete arrangements are in operation for investigating all cases of maternal death and puerperal pyrexia. Owing to local circumstances this work can be carried out in a satisfactory manner.

UNMARRIED MOTHERS, ILLEGITIMATE INFANTS AND HOMELESS CHILDREN.

There is no institutional provision in Swindon for unmarried mothers, illegitimate infants and homeless children.

INSTITUTIONS FOR THE CARE OF MENTAL DEFECTIVES.

There is no institution for the care of mental defectives belonging to the local authority.

PREVALENCE OF, AND CONTROL OVER, INFECTIOUS DISEASES.

Diphtheria antitoxin and, indeed, any other curative serums are obtainable by practitioners on application to the Health Office, but as practically all cases requiring antitoxin are removed to hospital, this provision is rarely utilised.

There is a complete arrangement for such pathological and bacteriological work as is required for the control of infection. Towards the end of the year provision was made for Schick testing and immunization against diphtheria. This is new and has not made much headway at present, though its outlook is promising. No similar provision will be made for immunization against scarlet fever unless the disease alters considerably in type, as, in the opinion of the author, in the present mildness of scarlet fever, artificial immunization is not worth while.

During the year no vaccinations, either primary or otherwise, were done by the staff of the Public Health Department.

There was no anthrax, undulant fever or psittacosis in Swindon during 1930, but there were two small outbreaks of epidemic jaundice, though neither was serious. Rheumatic fever was highly prevalent and fatal in Swindon during 1930. This disease has a complex epidemic beat and the year 1930 was one when the disease was at the height of its prevalence. In connection with the School Medical Department we have a special heart clinic connected with the centre established by Bristol University, but we are woefully lacking in accommodation for cases of acute and sub-acute rheumatism in children. This is a matter which will be considered in the near future and is somewhat bound up in the main hospital question of the town.

Facilities available for the disinfection of premises, articles, etc., exposed to infection, or verminous, are satisfactory, but as regards verminous persons the only work that is done in Swindon is in the School Medical Department.

LABORATORY FACILITIES.

All the ordinary clinical laboratory work is done in the laboratory attached to the Public Health Department, but examinations that require full laboratory equipment or biological experiment are sent to Bristol or Liverpool Universities. Details of the laboratory work appear in the table in the appendix.

THE HOSPITAL SITUATION IN SWINDON.

The actual state of the hospital accommodation available for the citizens can be gathered from other parts of this report and some indication of what improvements will be effected under any circumstances in the immediate future, but the final state of the hospitals of the town still remains an uncertainty.

It will be advisable to consider what are the requirements of the town which are at present not fully met, and then to discuss what available means exist for their satisfaction. The new Maternity Hospital will provide all accommodation that is likely to be needed for many years for normal and abnormal midwifery and for the diseases of pregnancy requiring in-patient treatment. The Isolation Hospital affords accommodation for all infectious diseases, whether notifiable or not, which require hospital treatment and which it is advisable to treat in separation. In the future some alteration of the Isolation Hospital, probably involving some small extensions, will be required, but this presents

no problem of any difficulty, as the Hospital can readily be altered or extended to meet any call that can be made on it. The Venereal Diseases Hospital of the County Council more than satisfies the needs of the district. The arrangement with Bath Orthopaedic Hospital partly satisfies the need for institutional treatment of orthopaedic cases in children, and the G.W.R. Medical Fund have arrangements which practically satisfy the needs for orthopaedic treatment for their patients.

There remain the following for consideration: General surgical cases, general medical cases, chronic incurable cases, mental cases not requiring certification, special cases such as eye, ear and throat, gynaccological cases and cases requiring radium treatment. With the exception of radium, for which it is possible that we shall be able to get an arrangement with Bristol, and the care of the incurably sick, for which we can, in reason, rely upon the Public Assistance Committee of the County Council, all the above are functions which can be carried out in a general hospital. It is generally considered that the town is mainly deficient in beds for surgical cases, but a consideration of the beds available will show that the general surgical is better catered for than any other class of case. The chief lack in Swindon is for beds for general medical cases requiring special forms of treatment. Until recently there was no accommodation at all for these cases, but since the new wing at Victoria Hospital has been built, some accommodation is provided for cases other than surgical. This accommodation is insufficient, markedly insufficient, and the means of treatment available locally are meagre. There is also lack of accommodation for special cases such as eye, ear, etc. The G.W.R. Medical Fund Hospital of 40 beds is a temporary building which cannot continue indefinitely, but, even if it could, the accommodation available is insufficient.

There is a great deal of division of opinion in the town as to what is the best solution of its hospital question. One section of the citizens favours one general hospital which, in practice, would mean considerable extension of the existing Victoria Hospital; another section favours a dual system, which means slight additions to Victoria Hospital and the building of an entirely new hospital by the G.W.R. Medical Fund Society; and another section of the community, which includes some from both the former sections, is in favour of the municipality taking over the voluntary hospital and enlarging it to meet the needs of the whole town. There are advantages and drawbacks to each of these plans and one difficulty common to all of them, namely, lack of money. It is well known locally that the writer of this report favours one hospital only and not two, on the grounds that he believes that it would be considerably cheaper and more efficient, as it would admit of one first class equipment rather than of two which were less efficient. Whether such single

hospital should be on the old voluntary basis, or on the levy system which really exists at present under the G.W.R. Medical Fund Society and the contributory scheme of Victoria Hospital, or upon a municipal basis, paid for by rate and administered entirely by elected representatives, is a matter for the citizens themselves to decide. In Swindon the position is somewhat open. Many of the objections to municipalities absorbing voluntary hospitals do not exist in Swindon, so the question of its future hospital policy must be considered as a local question and not as one much influenced by, or much influencing, the national question of the future of hospitals.

On the other hand, as half of the citizens are members of the G.W.R. Medical Fund Society, it is clear that if the Fund builds its own hospital, the municipality could not subsidise this hospital, as it would be a private institution, and could not in justice to the G.W.R. Medical Fund contributors absorb the local voluntary hospital. Nor, indeed, can the Town Council be advised to utilise Section 64 of the Public Health Act, 1925, to relieve the financial position of Victoria Hospital, as this might re-act unfairly to the contributors to the G.W.R. Medical Fund. The acceptance of the contributory scheme by the Victoria Hospital has placed a large number of the citizens who do not belong to the G.W.R. Medical Fund in much the same position as the members of that Fund so far as hospital accommodation is concerned, and it should be mentioned, for it redounds much to the credit of many of the citizens, that a considerable number of those belonging to the G.W.R. Medical Fund pay into the contributory scheme of Victoria Hospital and in other ways have given financial assistance to that institution.

Great as is the difference of opinion in the town regarding the hospital situation, there is a very genuine and general desire to settle it if possible. Swindon, being a self-contained unit of workers, little blest with extensive possessions or cursed with much poverty, must support itself and all its civic functions by its own industry. The local voluntary hospital, which was founded after the first jubilee of Queen Victoria, came into existence under a state of affairs which no longer exists anywhere and which never existed in Swindon at any time. Its history has been a constant struggle to maintain its existence by eking out its very meagre endowments and donations by such small sums as can be gathered from the individual charity of the citizens.

The question of the complete unification and municipalisation of the whole hospital system of Swindon is one to be commended to the consideration of the citizens as being probably the most satisfactory and the cheapest way of settling their problem. Nothing is more difficult to manage than a series of small isolated

units where financial considerations prevent anything from being done in the best and cheapest manner. This is the great difficulty in small self-contained communities. They cannot afford to give a service of guaranteed efficiency under all stresses, unless there is a complete unity of effort which allows automatic interchange and pooling of facilities for mutual relief of the various functions. An example of the advantage of getting the broadest base possible is afforded by the history of the Isolation Hospital. In 1923, the late Hospital Board adopted a change of policy by which the number of diseases which could be treated in the Hospital was increased from three to about thirty and facilities were offered to accept cases of infections from a wider area than that for which the Hospital was originally built. This just about doubled the work done by the Hospital, it reduced the average charge per patient per day by nearly thirty per cent. and diminished the total running expenses of the Hospital. In hospital administration nothing is more costly than empty beds, idle apparatus and staff not utilised to a full even working capacity, and in small units it is impossible to prevent these and their corollary of alternating periods of slackness and overtime.

The author has tried to put this matter before the citizens as dispassionately as possible. He neither desires, nor would he find it possible, to hide his own opinion of the solution, but the matter is one which obviously must be settled by the citizens themselves after consideration of all sides of the question.

HEALTH EDUCATION.

The education of the citizens in healthy living is probably the most important function of modern public health. Without it, everything is sure to fail; with it, much may succeed in course of time. There are widely different views as to the best method of awakening the public conscience to the needs of health. The Medical Officer of Swindon is not favourably impressed by any method which is sensational, or which attempts to arrest the attention of the population in any startling manner. Health teaching is education, not amusement, and its success is to be measured by its influence in producing steady, if slow, improvement.

The method used locally consists in giving public lectures and talks; in advice given to the individual citizens at the various clinics, and in the dissemination of the monthly periodical "Better Health," of which we have a local edition, which contains a long monthly letter addressed by the Medical Officer to the citizens of the town. At present this periodical is supplied without cost to the citizens or to the Council. We can only satisfy a circulation of 2,000, which is considerably less than the demand

and, under present circumstances, this circulation cannot be increased. We are, on the whole, satisfied with the influence of this publication in developing the health conscience of the population and we find evidence that the basic principles of healthy living, which are the main theme of this publication, are gradually sinking into the public mind.

In this country the chief means of educating the coming generation to live healthily and soundly, namely, health training and instruction during childhood, is in a very poor way and is much inferior to that practised abroad, in the Colonies and in America. The result of this is very obvious to those who have some acquaintance with foreign nations, or with the British from overseas. If those who go abroad, instead of dissipating a week in the cosmopolitan resorts of Paris and returning with queer ideas of what they call the Continental Sunday, would go into the smaller communes of France or Germany and study the methods of health education and citizenship which are given to children, they would come back with a very definite determination to improve certain things in our own country, in which we are behind the times in equipping our citizens for the struggle for existence in a world that is rapidly becoming unnational and cosmopolitan. We would particularly advise such a journey to that section of the community of Swindon who are fond of speaking of Swindon as an educational paradise.

The difficulty of educating adults whose training in childhood has been faulty is almost insuperable. When the mind is young and developing, one can inculcate habits which are good as easily as those which are bad, but to change habits which are fixed is only possible amongst those whose minds are above the average of activity.

THE DIRECT CONTROL OF DISEASE.

EPIDEMIOLOGY.

The science of epidemiology, using that word with its modern meaning, deals with the natural history of disease. Originally it had inference only to those diseases known to be of parasitic causation and liable to occur in epidemic form, but it is now extended to include the causation, distribution and variation of all human diseases. It is a composite science, requiring the services of the statistician, of the biologist and of the physician, and its development during the present century has been one of the most characteristic features of modern science.

The improvements in epidemiology which have occurred in Swindon during the past quinquennium have been entirely

dictated by the advance in science. Much attention has been paid to the forecasting of disease prevalence and the correct scientific utilisation of such methods as immunization and isolation. Disinfection, which in former years was looked upon as an important, if not the most important, method of stemming the advance of infection, has, as a result of increasing knowledge, fallen out of favour and general or house disinfection is looked upon, quite rightly, as a mere superstition. We have, however, retained house disinfection in Swindon, not because it has any influence upon the propagation of disease, but because it is a very convenient instrument for improving the cleanliness and sanitation of individual houses.

The work of Topley and Dudley particularly, but also of other laboratory and field workers, has modified enormously our conceptions of the process of infection. It has taught us how to appreciate the methods by which parasitic disease is spread, to understand its periodicity and the biological relationship of parasites and hosts. Though the actual treatment of persons diseased remains a medical function and the work of the physician, the prevention of the spread of disease is a purely biological problem. Infection does not necessarily produce disease, in fact its influence is rather the reverse, so that there are occasions when the best management of epidemics is not the limitation of infection, but its diffusion in an attenuated form. The epidemic of scarlet fever which had been in progress for about two years was, in the opinion of the writer, a benefit rather than a disadvantage to the citizens, and the future health of the town will be improved rather than damaged by its occurrence.

The history of the epidemiology of Swindon has been given year by year in the annual reports and little more need be said of it here. The chief events in the quinquennium were the epidemics of influenza in the Winter of 1926-27 and in February, 1929, the epidemic of scarlet fever which started about the end of 1927 and collapsed in 1930, the epidemic of smallpox which started in July, 1928, and ended in December, 1929, the epidemic of polio-myelitis in the Autumn of 1929 and the epidemic of diphtheria which started in August, 1930, and still continues.

During the five years, the town has been extraordinarily free from the diseases due to the parasites which mainly find entry through the abdominal canal, one case of dysentery in 1926, three cases of enteric in 1927 and an outbreak of food poisoning, limited to one household, in 1927 being the total for the five years.

A permanent feature of the epidemiology of Swindon is the attention that is paid to the pneumonias. This has been stressed every year, and the record of the pneumonias, their distribution

and their management, one of the most satisfactory evidences of progress that the town can show.

MATERNITY AND CHILD WELFARE.

By the end of 1925 the infant welfare side of maternity and child welfare had reached a state that did not admit of any further development under existing legislation and in the state of science then ruling, so that during the last quinquennium this department has changed very little; nor is it likely to change much for many years, save to accommodate itself to the growth of the town.

A new sub-centre was opened in 1929 to serve that district which became incorporated with the Borough on the alteration of its boundaries, but beyond this there has been no great change, nor any call for alteration.

In the maternal side of maternity and child welfare there has been great progress and there is an urgent call for still greater developments in the future. At the end of 1928 the Borough took over from the Wilts Nursing Association the training school for midwives connected with the Borough temporary Maternity Hospital in Milton Road, and in October, 1930, the Borough became the supervising authority under the Midwives Acts. Almost throughout the whole of the quinquennium the question of replacing the temporary Maternity Hospital by a permanent hospital was under consideration, and it was not until nearly the end of the period that these controversies materialised in building the new Maternity Hospital at Kingshill, which will be opened early in 1931.

Ante-natal work, which had been somewhat spasmodic in Swindon since 1921, was re-organised in 1925 and during the past five years has grown and developed considerably. It was started under auspices which promised great things to those who are impressed by the tall talk of supermen; but those who were experienced in the practice of preventive medicine were by no means happy about it and have not been surprised that ante-natal work up to the present has not fulfilled expectations. The five years experience that we have had of ante-natal work has convinced us that it is not altogether on right lines. We may say in passing that the department is now, and has been for some years, organised in complete agreement with the Ministry's recommendations in their memorandum 145 M.C.W. of 1929. The reasons why ante-natal work has not produced the results for which we hoped are very clear and, in view of the experience of child welfare, by no means unpromising as regards the remedy. All preventive medicine has started from the medical aspect.

We have for generations tried to get at the causes of disease from the consideration of the end product and based our theory of its genesis upon histories that have been obtained when the process was ending. These histories are a mixture of misconceptions, false impressions, imagination and lies. Moreover, it has been assumed that the beginnings of disease exhibit symptoms, similar in kind but less in degree, to those of the late stages when patients come under treatment. The shift over of the consideration of the origin of disease from the medical to the biological outlook has taught us that this premise is false and that we must find methods to detect the beginning, or the threat, of disease, different from those which we use to diagnose its nature when its presence has become obvious. The obstetrical side of ante-natal work has been developed and has produced a certain amount of benefit, but the biological side has not yet been given practical expression and it is from this side that we can hope to improve matters in the future. We met with exactly the same thing in the early days of school medicine and of child welfare and we have every reason to believe that eventually we shall be as successful in dealing with maternity as we are in dealing with children.

The pernicious doctrine that reproduction is a disease and delivery a surgical operation has blocked the progress of ante-natal work and until it is rooted out it is useless to expect the favourable rates of maternal mortality which rule in countries where this unphysiological teaching never existed. Skill we have in superabundance, understanding we have not. This passage is going to be wilfully misunderstood, so to forestall "remedies" which may be suggested, we state that the ante-natal work in Swindon, as elsewhere, is founded on the teaching of obstetricians and fails because the obstetricians know next to nothing of the physiology of reproduction.

CHILD MORTALITY.

The child welfare and school medical work of Swindon rests on continuous supervision from birth or before, up to the end of school life and further whenever possible. The principle underlying the whole endeavour is the biological conception of disease, according to which the first symptoms of departure from health are to be looked for in the failure of balance of functions, and that the beginning of disease, even where it progresses steadily to a fatal termination, bears little resemblance to the final phases. There is an old medical paradox that no man dies of the disease which kills him. From the pathological point of view this is interpreted that the actual cause of death, which takes first place on the certificate, is merely a termination, striking down the victim because of antecedent disease. But in the

biological conception of disease the paradox can be given a somewhat different explanation, namely, that diagnosable disease is due to stresses incidentally caused by environment upon an unstable physiological balance, itself induced either by inherent incapacity, or by failure of nutrition, or by super-added chemical poisons, the result of parasitic infection. In explanation, the following may be given: The chief diseases associated with the thyroid function are myxoedema and ex-ophthalmic goitre, which, pathologically, are opposites; but both of these conditions originate from the failure of the thyroid gland to balance its intake and output. Either failure of iodine intake, or excessive call for that element, disturbs the smooth working of the thyroid part in the endocrine cycle and causes the gland itself to increase in size. Should this increase be able either to make better use of diminished intake, or to manufacture more quickly for increased call, health is maintained, but if not, disease will supervene, varying its nature according to differences in environmental factors. From the point of view of true preventive medicine, the causes of ex-ophthalmic goitre and of myxoedema are identical.

To discover the factors which lead up to disease, we have to go much further back in history than was suspected in former ages and, in order to follow the process, it is necessary to have histories, if possible, from the beginning of life right up to death. These histories must be compiled from events as they happen and for any useful purpose must be dated. A history of disease taken after the disease has developed is not of the slightest value. The histories of those citizens who fall out early are obviously simpler than of those who live their normal span, and from these short histories very much can be gained to help us to unravel the causes of failure. It is for this reason that very great attention is paid to the mortality of infancy and childhood. Every year a table showing the causes of death of children is included in the annual report, arranged in accordance with what is known of their medical history. This table, though it agrees in number with the official register of deaths, differs from the latter very markedly in regard to causation. Not only do most of the somewhat doubtful causes, such as bronchitis, diarrhoea, or convulsions, disappear, but many of the more definite causes are taken further back to their origin; thus, heart disease of any kind does not appear in the table, for heart disease is a result of some previous condition and this previous condition can be discovered.

The following table gives the infantile mortality for the five years of the quinquennium and also the deaths from the more important infections:—

YEAR.	1926	1927	1928	1929	1930	Five Years.
No. of Births	980	830	910	867	971	4558
Standardizing Figure ..	1.020	1.205	1.099	1.153	1.03	.219
Stillbirths	34	34	31	44	42	185
0-1 Day	14	7	6	9	17	53
1-7 Days	5	10	3	5	17	40
7-28 Days	6	4	5	4	8	27
Total Natal Deaths ..	59	55	45	62	84	305
Rate per 1,000 Births ..	60.18	66.275	49.455	71.486	86.52	66.795
1 month to 1 year ..	24	18	19	23	19	103
Rate per 1,000 Births ..	24.48	21.69	20.881	26.519	19.57	22.557
1-2 Years	12	8	10	14	8	52
2-5 Years	10	5	10	12	11	48
5-10 Years	17	6	7	6	19	55
10-17 Years	12	7	6	7	18	50

CHIEF CAUSES OF DEATH (POST-NATAL).

YEAR.	1926	1927	1928	1929	1930	Five Years.
Measles	6	—	15	—	7	28
Whooping Cough ..	2	4	13	19	11	49
Diphtheria	6	3	2	1	9	21
Scarlet Fever	—	—	—	—	—	—
Rheumatic Fever ..	8	1	1	4	9	23
Influenza	—	3	3	6	2	14
Pneumonia	9	5	2	2	5	23
Tuberculosis	11	5	5	6	9	36
Illfeeding and errors of management, including rickets, etc. ..	17	14	4	3	8	46

Several important matters can be deduced from these tables. If we take the infantile mortality from one month to a year we can see that this is dominated to-day mainly by measles and whooping cough; the diarrhoeal diseases, which, in former years, were the largest unit in causing mortality at this age, having practically disappeared. We find also that the deaths due to errors of management and feeding tend to be fewer. When, however, we turn to the deaths which occurred either before birth, during birth, or immediately after birth, we find that though for the first three years of the quinquennium there was a steady improvement, there was a very rapid increase in 1929 and a still more rapid increase in 1930. The deaths during the first month of life since the beginning of the decade were 36, 35, 32, 31, 30, 25, 21, 14, 18, 42. The rates will, of course, be somewhat different from these owing to the variation in the number of births, but the rates will follow very much the same graph and the high rate of 1930 undoubtedly calls for explanation. Deaths during this age are practically unaffected by the infectious diseases of childhood. There was nothing in the health of the population to give any explanation of this extraordinary rise and one cannot escape from the suspicion that it is in large part factitious. There are other factors which add to this suspicion. The high stillbirth rate in second pregnancies, that pregnancy which normally shows the lowest stillbirth rate, the something more than a suspicion that in four at least of the fatalities of 1930 death was not altogether free from attempts to produce it, lead one to fear that there is a lowering of what may be called "maternal morality" and that the increase in the number of new citizens who fall out is due to deliberate destruction.

It has been remarked in Swindon on many occasions, and also in every part of the world where child welfare schemes are in operation, that the death rate of infants who attend the infant clinics is very much lower than of those who do not attend. The difference is not merely one of a few points. If we exclude infants under one month old and pay attention only to children between the ages of one month and two years, one finds that last year 27 deaths occurred. 15 of these children had not attended the clinic and 12 had. In 1928 there were 29 such deaths, 13 of which had not attended the clinics. Now it happens that for this year we have a complete record of the percentage of children who did and did not attend the clinic. During the year 1928, 910 children were born in Swindon. For various reasons, death during the first month, removals, etc., this number left 843 children who had survived the first month and remained in the town. Of this number, 720 who are still alive, plus 8 who died, attended the clinic, and 123, plus 10 who died, did not attend the clinic. This gives a death rate of 11 per 1,000 for the clinic children and 75 per 1,000 for those children who did not attend the clinic. It is fairly certain that this difference is still more marked amongst

the children born in 1930, though the complete figures are not yet available, but actually it is more marked even for the 1928 children, because of the 123 who did not attend the clinic, 39 had left the town permanently and their history is unknown, so that of those who remained in the town and did not attend the clinic the number is only 94 and their death rate works out at 106, or nearly ten times that of the clinic children.

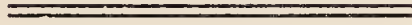
Another matter of very considerable interest is the relative infantile death rate of normal and defective children. Child welfare has been attacked upon the grounds that it tends to keep alive defectives who would be better dead and so upsets the natural selective process of elimination of the unfit. That we strive to prevent death amongst all and under any circumstances is correct, but with the defectives we do not succeed. These die at much the same rate as they did in former years.

Development of child welfare in Swindon gives us the opportunity to study the early stages of mental defection. Though very great attention has been paid to mentally defective children of the ages of five and above, there has been singularly little work done in connection with their infancy, due in great measure to the lack of opportunity of study. Perhaps there is a personal reason why so much attention has been given to this subject in Swindon, but however this may be, there is no question that we have somewhat unusual facilities for watching the mental processes of infants and toddlers. This is not the place to enter deeply into this question, so it must suffice to say that, as a result of our experience, we maintain that imbecility with an intelligence quotient below 30 can be recognised in an infant a month old, and that the lower grades of mental defection with a quotient below 50 are detectable well before the end of the first year. It is obvious that the higher grades of mental defection cannot be detected early, many of them indeed cannot be detected until late in the school life and sometimes not until school life is over and the individual has to fight his own battles in the world. The commonest form of mental defection met with in infants is Mongolism. One child in 200 born is a Mongol; of these, one-third die before the end of the first year and two-thirds before the end of the fifth year, so that it is only one-third of the Mongolian imbeciles born who reach school age. Our experience also leads us to believe that a considerable amount of mental defection (apart from Mongolism and microcephale) is of post-natal origin, due sometimes to indefinite infections, but more frequently to nutritional causes. There is reason to believe that lack of vitamin A and also lack of vitamin B in early life interferes with the normal development of the brain cells (which should be extremely active in the first two years of life) and that since deficiency is a remediable condition, much mental defection should be preventable. We must leave this matter here, as we intend to deal with it at another time.

The death rate among defectives is, as has been stated, very high. No evidence of this will appear from the Registrar's figures, because mental defection never appears upon the death certificate and these unfortunate children pass out through much the same terminal causes as do normal children. It will be noticed that amongst the 75 children between 1 month and 17 years who passed out in 1930, 8 were known to be defective. In the near future, figures will be available for the past ten years.

Comparatively few of the children who attend the clinics die and, if the yearly reports are studied carefully, it will be seen that the chief causes of death now are measles and whooping cough, two diseases for which, up to the present, we have done little in the way of prevention. The main work of child welfare is the management of the nutrition and infection of early childhood, errors of which produce diseases mainly temporary in character and, if properly managed, resulting in an output of perfectly healthy citizens. Morbidity and defection follow the curves of mortality, and from the infant mortality tables a very shrewd guess can be made of the prevalence of child disease and defects.

ISOLATION HOSPITAL, GORSE HILL.



ANNUAL REPORT

From 1st April, 1930, to 31st March, 1931.

ISOLATION HOSPITAL.

The Isolation Hospital year runs from the 1st April to the 31st March, and it is advisable to keep to this year, because, as the Hospital caters for a large area outside the Borough boundary, its report could not be made to fit in entirely with the report for the Borough, whereas, by carrying on the Hospital year three months beyond the end of the calendar year, it is possible to get a better retrospective view of the epidemiology of the last quarter, and a break at the end of March is least disturbing to the history of epidemiology.

The number of new admissions during the year 1st April, 1930, to the 31st March, 1931, was 330, against 419 and 529 for the two preceding years and an average of 300 for former years. The drop in numbers was entirely due to the low prevalence of scarlet fever, which is still, numerically, the most important disease treated in hospital. When scarlet fever is low in incidence, admissions to the Hospital are also always low in numbers, but actually the amount of work entailed may be greater with the fewer numbers. This was so last year, as we had an unusual number of cases of great severity and complexity.

On the 1st April, 1930, 32 patients remained under treatment and 330 new cases were admitted, so that there were 362 cases under treatment during the year. Of these:—

307 were discharged cured.

1 was discharged to another institution.

28 died, and

26 remained in Hospital on 31-3-31.

The new admissions were received under the following notifications:—

Scarlet Fever	...	...	...	...	...	81
Diphtheria	...	...	...	...	...	165
Pneumonia	...	...	...	...	...	59
Puerperal Pyrexia	...	...	...	...	...	13
Babies with Mothers	...	...	...	...	...	7
Erysipelas	...	...	...	...	...	4
Rubella	...	...	...	...	...	1

The 362 cases arranged according to their final diagnosis were :—

Scarlet Fever	...	...	...	...	...	87
Diphtheria	...	...	...	...	...	141
Pneumonia	...	...	...	...	...	61
Puerperal Pyrexia	...	...	...	...	...	14
Babies with Mothers	...	...	...	...	...	6
Tonsillitis	...	...	...	...	...	16
Cerebro-spinal Meningitis	...	...	...	...	...	1
Scarlet Fever and Measles	...	...	...	...	...	2
Scarlet Fever and Chickenpox	...	...	...	...	...	1
Diphtheria and Measles and Mumps	...	...	...	...	...	1
Diphtheria and Rubella	...	...	...	...	...	4
Diphtheria and Scarlet Fever	...	...	...	...	...	4
Diphtheria and Vincent	...	...	...	...	...	1
Erysipelas	...	...	...	...	...	4
Rubella	...	...	...	...	...	6
Urticaria	...	...	...	...	...	1
Measles	...	...	...	...	...	3
Marasmus	...	...	...	...	...	1
Staphylococcal Septicaemia	...	...	...	...	...	1
Septic Rash	...	...	...	...	...	1
Glandular Fever	...	...	...	...	...	1
Cerebral Haemorrhage	...	...	...	...	...	1
No obvious disease	...	...	...	...	...	4

DIPHTHERIA.

There were 141 cases of pure diphtheria and 10 of diphtheria complicated with other infections on admission, a total of 151, or five times as many as in the preceding year. The hospital year covers nearly the whole period of the last epidemic of diphtheria, but here we are concerned only with the clinical, not with the epidemiological features of that epidemic. Not only were the cases numerous, but they were severe, those of the beginning of the epidemic especially being of an exceedingly serious type. Altogether there were 10 deaths, giving a fatality of 6.6%, which, in these days, is high.

Excluding the superadded infections with which 10 of the cases were admitted, the complications were as follows:—There were 6 laryngeal cases, all of which recovered with anti-toxin

alone. 2 were second attacks of the disease, in one case ten years and in the other two years after the primary attack. There were 3 relapses during the stay in Hospital. The author's experience is that second attacks of diphtheria, in which both attacks are proved to be genuine clinical diphtheria, are rare and until this year he has never had any experience of a true relapse in diphtheria. Only one case was haemorrhagic, but two had severe bull-neck; these three cases were fatal. 14 of the cases developed paralysis, 12 heart failure, 9 otorrhoea, 1 anaemia, 1 septic endocarditis and 2 herpes labialis. 32 of the cases had anti-toxin rashes, a higher proportion than we have seen in recent years, and 1 had acute anaphylaxis during injection, but recovered. An interesting case was diphtheria of an eye socket, in which the eye had been removed some years previously. No case was discharged from Hospital until we had obtained three consecutive negative cultures from the throat, and no case of otorrhoea was discharged until the ear perforation had healed. Four of the ear cases were treated by ionization.

THE PNEUMONIAS.

There were 61 cases of pneumonia under treatment during the Hospital year. The 61 cases can be worked out as follows:—

Variety.	Cured.	Died.	Still in Hospital	Total.
Croupous type	10	1	1	12
Influenzal type	8	6	—	14
Whooping cough pneumonia	5	2	1	8
Measles pneumonia	12	2	—	14
June epidemic type	4	—	—	4
Post operative type	—	—	1	1
Syphilitic pneumonia	—	—	1	1
Pneumonia of uncertain type	4	—	1	5
Moribund on admission	—	2	—	2
TOTALS	43	13	5	61

The mortality amongst the completed cases was 23.2%, which is favourable. Amongst the influenzal pneumonias there were four cases complicated with pericarditis and mediastinitis. These were

all young adult males and occurred in November. This form of influenza was extremely common in the epidemic of 1892-94, but has not been common during the present century. The pneumonia which accompanied the influenza during the epidemic period in February, 1931, was not of a fatal type.

One of the whooping cough cases developed severe surgical emphysema and another developed empyema; both of these recovered. Four of the more severe cases of whooping cough pneumonia were treated with Immunogen; three of them recovered. We have been favourably impressed by the action of Immunogen in whooping cough pneumonia and think that it is worthy of scientific exploration. So far, the evidence of its value which we can offer from Swindon is of no scientific value.

One of the measles cases developed croup, so severe that tracheotomy was necessary. The case recovered. Diphtheria could be excluded as the cause of the croup. Measles croup is never very uncommon, but in these days it is very exceptional for it to require operative treatment. One of the measles cases died with symptoms of encephalitis. Unfortunately, we could not get a post mortem examination on this case.

Pneumonic anti-toxin was used in one croupous and one influenzal case. Both died. We had proposed this year to deal with the blood changes of pneumonia and the use of pneumonic anti-toxin, but as this report is inordinately lengthy, we shall present a special monograph on this subject at a later date.

SCARLET FEVER.

There were only 87 cases of scarlet fever under treatment, compared with 288 for the preceding year and 340 for the year before. The year under review covered the decline of the epidemic and, as is usual in such periods, the type was less benign than it had been in the height of the epidemic. 15 cases were treated with anti-toxin. There were 5 second attacks of scarlet fever, in which the previous attacks had been:—2 four years, 1 five years and 2 ten years previously.

The chief complications were as follows:—

Enlarged Glands *	...	...	...	...	4
Secondary Sore Throat	...	...	...	...	3
Otorrhoea	...	...	...	...	6
Systolic Murmurs	...	...	...	...	9 †
Endocarditis	...	...	...	...	1 †
Herpes	...	...	...	...	3
Nephritis	...	...	...	...	1
Relapse	...	...	...	...	4

* One case of abscess occurred.

† Cleared up before discharge.

The cases of otorrhoea :—

Day of development :—

4th	...	...	...	...	1
6th	...	...	...	...	3
12th	...	...	...	...	1
21st	...	...	...	...	1

Duration until perforation completely scarred :—

15 days	...	...	...	...	1
24 „	...	...	...	...	1
26 „	...	...	...	...	1
28 „	...	...	...	...	1
30 „	...	...	...	...	1
43 „	...	...	...	...	1

Cases of otorrhoea which last for three weeks are treated by ionization. Five of the children had tonsils and adenoids removed while they were in Hospital, but with the exception of one case of popliteal abscess, there was no other surgical treatment required.

There were no deaths amongst the scarlet fever cases, but one puerperal woman who died (not included in the above statistics) is considered to have been a case of scarlet fever; and one case of septic scarlet fever which left Hospital completely recovered, died ten days later from fulminating cerebro-spinal meningitis.

RETURN CASES.

There were 6 alleged return cases investigated, 3 of which fell out on inquisition. The details of the other 3 are as follows :—

(1) This case is of particular interest. A boy, aged 8, admitted with septic scarlet fever on 24-2-30, returned home on 25-3-30. His father, aged 48, sickened on 3-4-30 with what was thought to be rubella, but he peeled typically of scarlet fever. He was nursed at home. Another boy, aged 4, sickened on 12-4-30, also nursed at home and thought to be rubella, but peeled. A third young man, aged 24, sickened on 26-4-30. He was removed to Hospital and was, unquestionably, a case of rubella.

(2) and (3) A boy discharged from Hospital on 22-4-30 after scarlet fever. Two girls developed diphtheria in the same household on 9-5-30. The presumed infector developed rubella in Hospital and one of the infectees developed rubella as soon as she came in Hospital. There is, however, not the slightest reason to believe that the two girls had been infected with diphtheria by the boy who was discharged from Hospital. Another case in the same household developed diphtheria, admitted 10-5-30, was probably infected from a known source of diphtheria.

PUERPERAL PYREXIA.

14 cases of puerperal pyrexia were treated in Hospital during the year. Of these, 2 were fatal; one a case of concealment of birth with retention of products; and the other a case of scarlet fever occurring in the puerperium, with parametric abscesses, who died under operation. 6 of the 14 cases were due to abortion, 1 was a case of severe anaemia from ante-partum haemorrhage and the remainder were cases of retention.

DUNSTAN BREWER,

Medical Supt. Isolation Hospital.

Public Health Department,

61, Eastcott Hill,

Swindon.

Epilogue

EPILOGUE.

We can regard the future with optimism, for in the past we have made progress in spite of foreseen and unforeseen difficulties. It is only twenty-three years since medical inspection of school children was introduced into this country—the date of prime importance in the history of preventive medicine—and in that comparatively short period we have established a new method of approach to the solution of the hindrances to physiological integrity. Accepting the metaphysical proposition that health is a positive factor and not the mere negation of disease, it has become possible to utilise the appreciation of the relationship of that species of animal known as *homo-sapiens* to his environment and the process by which he has reached his present position in the scheme of Nature. We must not expect to go rapidly, this cannot be; for even if our wisdom grew equally with our knowledge, it would take many years ere it suppressed the errors and superstitions with which we have encumbered ourselves and until these are out of the way, Truth, with the odds heavily loaded against her, has continuously to battle against falsehood as well as ignorance. It is difficult enough to get the average human to appreciate the mathematical argument, the simplest of all truth and one in which emotion and prejudice do not interfere; how much more difficult must it prove to establish biological truth which is the reverse of obvious, frequently barely tangible and too often opposite to what our passions have mislead us to regard as true.

We should not be depressed by the apparent failure of all the elixirs and wonderful cures which, in a constant stream, are crammed down the throat of the credulous; for in all, failure is not complete; many have some basis which is genuine, true and valuable. If one hundred-thousandth part of the claims of new “remedies” had stood up to test, we should long since have seen the end of disease. Most are intrinsically and obviously worthless, but in many there is more than .001 per cent. of value; some indeed, such as the results of research into nutrition, scoring marks which are quite tangible to those whose estimation of quantity is limited by their ten fingers.

From strictly medical research, from the seeking of remedies for disease, what is called preventive medicine (an unfortunate term, for what it stands for is not preventive and not medicine) can gain little, but this is about the most barren department of science so far as the maintenance of health is concerned. Unfortunately it is the only element of which the public mind has any understanding or in which it exhibits interest. Disease, like crime, has a grim fascination for mankind; health, like virtue, is uninteresting.

The difficulties of unravelling the mysteries of human biology are formidable enough in themselves, owing to the immense range of human variation, but they are rendered still more difficult by the limitation of experiment upon our species enforced by ethics. The only method we have for trying out new ideas is by contrasting parallel series of subjects, in which all factors are as nearly constant as possible except the known variant which is the object of the experiment. As soon as it is apparent that the variant has an influence, either beneficial or the reverse, the experiment, so far as man is concerned, must cease, for we cannot submit our fellows to anything which we have the smallest reason to believe to be deleterious, or to deprive them of anything which appears to be to their benefit. This does not stop progress, but it makes it extremely slow, and leaves in suspense many promising discoveries.

But we do progress. Even in the short span of our own lives, we see the fading and disappearance of old falsenesses and evil customs. These take much going, but when gone they never return and are eventually forgotten. The witchcraft of the seventeenth century is now known only to the historian and much which was false in the science of the nineteenth century is barely remembered, even by those who learned it. So in its turn will the sham biology of the post war period, of which there is much, pass on its way. Yet each of these events leaves behind something which does not pass, because it is true and being true is indestructable. Let us not be gloomy because much of the teaching of the present day is obviously false (for the false when it once becomes obvious rapidly succumbs), let us rather rejoice that so much has been proved to be true and build our future on this base which can resist all assaults against it.

For many of our difficulties we are responsible, not because of our sins, but because of our ignorance. In the present state of our evolution, our prejudices lead us into troubles from which our sense is insufficient to extricate us. We are all fools, but since some have sufficient wisdom to know that they are fools and exercise what wits they have to overcome their folly, the outlook for the future of our species is highly promising. We are, or can train ourselves to be, highly skilful and are apt to mistake skill for wisdom; therefore we ignore biology, the most sobering of all pursuits, and try to subdue Nature by subterfuge, at which we are all experts. And of course we fail; but from our failure some of us exact something and that something leads us to the right road. Knowledge of an evil does not always lead us to its remedy, but without the knowledge, the chance of stumbling on the remedy is infinitely small and not worthy of a moment's thought. We have to train ourselves to go back to the beginning (the most humiliating experience which man can endure) when we come to a deadlock. We must be prepared to wipe off the

slate the experiences of ten thousand years whenever some new fact proves conclusively that the beginning was founded in error and the product must therefore be false. Trying to patch up error has caused the downfall of all human civilisations, all philosophies and threatens the downfall of preventive medicine at the present day. From this catastrophe it can be saved and there are many able minds at present engaged in saving it. Let there be no mistake, science cannot live in a fool's paradise; mankind can have health, but not unless he is prepared to jettison his prejudices. There can be no compromise, from what is false nothing can come but evil, so the false must be exterminated. The extermination of biological falsehood is the most pressing need of the immediate future.

DUNSTAN BREWER,

Medical Officer of Health.

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61, Eastcott Hill,

Swindon.

APPENDIX.

DIPHTHERIA IMMUNISATION CLINIC.

By J. Stevenson Logan, Deputy Medical Officer of Health.

In September of this year, facilities were provided for the active immunisation against diphtheria in cases where it was desired. Mention of these arrangements was made in "Better Health," and 18 persons have been presented for a preliminary Schick test as a result. The rest of our cases have come to us mainly because they have been contacts with the disease, and immunisation has been offered at the same time as the throat has been swabbed.

The process is explained to the parent, and no immunisation is attempted unless a promise to complete the course and to submit to second Schick test, is obtained. In all cases a preliminary Schick test is performed. Three injections, each of 1cc. Diphtheria Prophylactic (T.A.M.) are given intramuscularly into the deltoid, at intervals of a fortnight, and arrangements are made to perform a second Schick test at the expiration of six months.

Owing to the relatively small numbers treated it has been found possible to do this work without disturbing any of the existing arrangements, and experience has shown that, with good organisation, a large number of cases could be dealt with satisfactorily under the existing scheme. Recently there has been some diminution in the numbers desiring the treatment and, should the disease become absent in Swindon, it would appear that some educational methods will have to be introduced if the work is to go on.

Even after this short experience two facts stand out clearly. There is an almost complete absence of any local or general reaction to the T.A.M. 70 injections have been given, and the presence or absence of any reaction ascertained. In two cases this has occurred, a youth of 17 complained of pain in the arm which lasted for several days, and a girl of 12 had general malaise for a day; it is probable that there was some suggestion in this case. One has been able to reassure parents on this score, and this has a great deal to do with their willingness to have the treatment. The other feature is the willingness of the children. Few, if any, of them are frightened and no trouble is experienced with the second or subsequent injection, and many of them bare their arms voluntarily in a most confident way. It would appear that

the Schick test is more inconvenient for them than the immunising injections.

From the few results we have, it would appear that in Swindon almost all children under the age of five are positive reactors, and that about 85% of those between the ages of 5 and 10 also come into this category. It may be that these high percentages are due to the fact that of recent years there has been little diphtheria in the Borough.

68 primary Schick tests have been performed, of which records are available for 67. 25 persons have been presented for immunisation, and the complete course given in 20 cases. 5 persons are in the process of immunisation.

Results of 68 primary Schick tests classified in age groups:—

AGE.	Positive	Pseudo-Positive	Negative	Pseudo-Negative	No Record.	Doubtful	Total Positive	Percentage Positive
0-5	12	—	—	—	1	1	12	100
5-10	18	2	3	—	—	—	20	87
10-15	8	—	7	—	—	—	8	53
15-20	1	—	2	—	—	—	1	33
20-30	1	1	4	—	—	—	2	33
30-40	1	—	3	—	—	—	1	25
40-50	1	—	—	—	—	—	1	100
50-	—	—	2	—	—	—	0	0

Results of Schick test in 31 known contacts:—

AGE.	Schick Pos. Swab Neg.	Schick Neg. Swab Neg.	Schick Pos. Swab Pos. *	Schick Neg. Swab Pos.
0-5	7	—	2	—
5-10	8	2	—	—
10-15	2	3	1	—
15-20	1	3	—	—
20-30	—	1	—	—
30-40	—	—	—	—
40-50	—	—	—	—
50-	—	1	—	—

* One of this group returned 2 positive swabs, but the strain was found to be non-virulent on guinea pig inoculation. 2 others returned positive swabs, but later became negative; there is no information as to the virulency of the strains.

5 persons Schick tested gave a history of having had diphtheria. One of these was pseudo-positive, 14 years after the attack, the others being Schick negative.

One Schick positive contact subsequently developed the disease. No Schick negative person has contracted the disease. No person in the process of immunisation has contracted the disease.

J. STEVENSON LOGAN,

Deputy Medical Officer of Health.

BOROUGH OF SWINDON.

GENERAL STATISTICS.

Area (acres)	...	...	...	...	6021
Population (1929)	...	...	...	...	62020 *
Number of inhabited houses (1930)	...	...	...	...	15659
Number of families or separate occupiers (1930)	...	...	...	...	(Figure not available).
Rateable Value (General Rate)	...	...	...	...	£315,256
Sum represented by a penny rate	...	...	...	...	.. £1,284

EXTRACTS FROM VITAL STATISTICS OF THE YEAR.

	Total	M.	F.	
Births: Legitimate	... 933	449	484	
Illegitimate	... 38	24	14	Birth Rate 15.66
Deaths	... 668	350	318	Death Rate 10.77

Number of women dying in, or in consequence of childbirth { From sepsis ... 2
 { From other causes .. —

Deaths of Infants under one year of age per 1,000 births:—
 Legitimate 58.95 Illegitimate 157.89 Total 62.82

Number of deaths from Measles (all ages)	...	...	...	6
,, ,, ,, Whooping Cough (all ages)	...	...	...	5
,, ,, ,, Diarrhoea (under 2 years of age)	...	...	...	5

* This figure is the estimated population at the middle of 1929. There is reason to believe that it is an under-estimate. All the statistics are worked out upon this figure and are, therefore, approximations only.

INFECTIOUS DISEASE.
Table showing the numbers of Infectious Diseases notified in the Borough during the year 1930.

Disease.	Cases notified at various ages. (Years).											Total cases notified.	No. of cases admitted to Hospital.	Total Deaths.
	Under 1	1-2	2-3	3-4	4-5	5-10	10-15	15-20	20-35	35-45	45-65	65 and upwards.		
Smallpox	.. 1	.. 1	.. 4	.. 8	.. 12	.. 43	.. 23	.. 7	.. 13	..	..	..	.. 112	.. 9
Diphtheria 1	..	..	..	.. 1	.. 3	.. 5	.. 2	.. 4	.. 1
Erysipelas 2	..	.. 7	.. 14	.. 47	.. 15	.. 5	.. 10	.. 4	.. 1	..	.. 93	..
Scarlet Fever 4	..
Ophthalmia Neonatorum 1	.. 4	.. 3	.. 8	.. 68	.. 18	.. 3	.. 2	..	..	..	..	..
*Chickenpox	.. 2	..	..	..	..	..	..	..	..	..	..	..	..	..
Dysentery	.. 8	.. 15	.. 8	.. 5	.. 3	.. 15	.. 3	.. 5	.. 10	.. 8	.. 15	.. 10	.. 44	.. 40
Pneumonia
Enteric Fever
Continued Fever
Encephalitis Lethargica 3	.. 21	.. 6	..	..	.. 10	.. 3
Puerperal Pyrexia 1	..	..	..	.. 1	.. 2
Puerperal Fever 2	..	..	.. 1	..	.. 1	..	.. 1	.. 1
Poliomyelitis
Cerebro-spinal Meningitis
Polio-encephalitis
Malaria
Tuberculosis—
(a) Pulmonary 2	.. 10	.. 4	.. 6	.. }	..	.. 22
 12	.. 3	.. 3	.. }	..	.. 15
TOTAL 37
(b) Non-Pulmonary
M	1	2	1	1	..	7	3	1	5	2	..	1	..	10
F	3	3	4	4	3	2	..	..	..	5
TOTAL	15
TOTALS	23	21	17	24	37	186	66	30	89	32	31	13	269	108

*Ceased to be notifiable in Swindon on 11/3/30.

TABLE SHOWING MONTHLY INCIDENCE OF INFECTIOUS DISEASES AND THE NUMBER OF DEATHS

DURING 1930.

DISEASE.	NUMBER OF CASES.												Total.	No. of Deaths.
	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.		
Smallpox ..	6	2	5	2	9	11	4	5	7	23	22	16	112	9
Diphtheria ..	1	1	—	1	1	2	—	1	1	2	—	2	12	—
Erysipelas ..	12	16	23	12	8	8	7	1	2	3	6	7	105	1
Scarlet Fever ..	—	—	1	—	1	2	2	2	—	—	2	1	11	—
Ophthalmia Neonatorum ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dysentery ..	10	14	13	5	7	16	9	4	5	8	8	6	105	40
Pneumonia ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Enteric Fever ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Encephalitis Lethargica ..	1	4	2	1	2	2	3	6	1	1	5	2	30	3
Puerperal Pyrexia ..	1	—	—	—	—	—	—	—	—	—	—	—	1	—
Puerperal Fever ..	1	—	1	1	—	—	—	—	—	—	—	—	3	2
Poliomylitis ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Polio-encephalitis ..	—	—	—	—	—	—	—	—	—	1	—	—	1	1
Cerebro-spinal Meningitis ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Malaria ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Continued Fever ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—
*Chickenpox ..	25	48	36	—	—	—	—	—	—	—	—	—	109	—
TOTALS ..	57	85	81	22	28	41	25	19	16	38	43	34	489	56

* Ceased to be notifiable in Swindon on 11-3-30

TUBERCULOSIS, 1930.

Age Periods.	NEW CASES.				DEATHS.			
	Pulmonary		Non-Pulm'ry		Pulmonary		Non-Pulm'ry	
	M	F	M	F	M	F	M	F
Under 1 year ..	..	..	1	..	..	..	..	..
1—5 ..	..	..	4	1	..	..	1	..
5—10 ..	..	..	10	3	..	..	..	1
10—15 ..	..	..	3	4	..	..	2	..
15—20 ..	2	..	1	3	1	2	1	2
20—25 ..	3	7	1	3	3	4	1	1
25—35 ..	7	6	5	1	9	3	2	1
35—45 ..	4	3	2	2	4	4	2	..
45—55 ..	4	1	..	..	2	2	..	..
55—65 ..	2	2	..	..	2	..	..	..
65 and over ..	..	..	1	..	1	..	1	..
TOTALS ..	22	19	28	17	22	15	10	5

DEATHS FROM TUBERCULOSIS, 1930.

TABLE SHEWING WHEN CASES WERE NOTIFIED.

When Notified.	Pulmonary.		Non-Pulmonary.	
	Males.	Females	Males.	Females
One year or more before death	11	10	..	..
Less than one year and more than 6 months before death	2	2	1	1
Less than six months and more than two months before death	3	1	..	..
Less than two months before death ..	2	..	2	3
At or immediately before death	2	2	5	1
Unnotified. (Cases who died outside the Borough and never notified to Swindon).	2	..	2	..
TOTALS	22	15	10	5

Comparative statement showing the number of notifications received of the various forms of Tuberculosis and the Death Rates resulting from each form of the disease for the years 1914-1930.

	1930	1929	1928	1927	1926	1925	1924	1923	1922	1921	1920	1919	1918	1917	1916	1915	1914
No. of cases notified (all forms)	86	98	114	102	94	91	111	117	103	98	97	73	116	129	132	140	160
Respiratory Tuberculosis ..	41	57	69	70	56	66	75	75	68	63	72	51	86	102	95	86	101
Deaths from Respiratory Tuberculosis	37	23	40	45	30	42	42	48	59	42	55	44	66	60	48	51	53
Deaths from Tuber. Meningitis	3	3	6	1	8	5	4	12	6	11	8	8	11	8	10	10	3
Deaths from other forms of the disease ..	12	1	2	9	3	4	7	7	6	12	6	8	11	10	10	8	1
Total deaths from Tuberculosis	52	27	48	55	41	51	53	67	71	65	69	60	88	78	68	69	57
General Death Rate for all forms of Tuberculosis	0.84	0.44	0.82	0.96	0.71	0.89	0.93	1.19	1.27	1.17	1.28	1.16	1.74	1.5	1.3	1.32	1.07
Death Rate for Respiratory Tuberculosis	0.60	0.37	0.68	0.78	0.5	0.73	0.74	0.85	1.05	0.75	1.02	0.85	1.30	1.15	0.95	0.98	1.0

BACTERIOLOGICAL INVESTIGATIONS.

	PUBLIC HEALTH DEPT.					SCHOOL MEDICAL DEPT.				
	1926	1927	1928	1929	1930	1926	1927	1928	1929	1930
Examinations carried out by Bristol or Liverpool Universities	4	9	13	26	26	2	..	1	..	..
Examinations carried out at Gorse Hill Hospital :—										
Throat Swabs examined ..	646	93	168	115	524	..	..	..	..	..
Urine : Examination for Tubercle bacilli	..	..	..	..	..	..	..	..	..	..
Examinations carried out at 61, Eastcott Hill :										
Throat ; swabs examined ..	83	157	244	241	851	1	3	21	5	84
Eyes ; swabs examined direct ..	45	41	55	36	55	5	..	6	2	5
Pus and discharges :—										
For Tubercle bacilli	9	9	9	6	10	2	..	1	..	..
For other organisms (cultures) ..	34	37	22	66	54	4	1	1	2	..
Hair. Examinations for Ringworm fungus	11	9	..	..	5	253	229	271	206	89
Other conditions ..	1	..	1	..	..	1	..	2	..	1
Blood, Histological examinations ..	27	18	14	12	16	83	53	56	35	25
Blood for Wassermann-Reaction ..	..	..	..	..	..	1	2	1	..	..
Cerebro-spinal fluid ..	..	1	1	8	4	..	..	..	..	..
Sputum. For Tubercle bacilli ..	..	2	2	1	1	1	..	1	..	..
For other organisms ..	..	..	..	..	..	..	..	..	..	..
Urine-Chemical examinations ..	..	13	49	24	76	12	6	23	18	16
" Microscopical examinations ..	..	8	17	9	10	..	4	19	4	2
" Bacteriological examinations ..	..	..	..	..	..	4	..	..	..	..
For diseased meat ..	33	17	23	17	2	..	..	..	..	..
Miscellaneous ..	26	34	22	2	11	1	..	..	..	68
TOTALS ..	919	448	640	563	1645	370	298	403	272	290

No. of samples of water submitted for chemical and bacteriological analysis during 1930 .. 34

No. of samples of sewage effluent submitted for chemical examination during 1930 .. 10

**REVIEW OF THE COMPARATIVE VITAL & MORTALITY
STATISTICS FOR THE BOROUGH OF SWINDON,
TOGETHER WITH THOSE FOR ENGLAND AND
WALES FOR THE YEARS 1901 TO 1930 INCLUSIVE.**

Year	BIRTH RATE.		DEATH RATE		INFANT MORTALITY RATE		Illegitimate Death Rate
	Swindon	England and Wales	Swindon	England and Wales	Swindon	England and Wales	
1901	30.6	28.5	11.8	16.9	102.9	151	—
1902	28.3	28.5	12.7	16.3	104.7	133	—
1903	29.5	28.5	11.27	15.5	106.9	132	—
1904	30.0	28.0	12.49	16.3	111.2	145	—
1905	28.4	27.3	11.2	15.3	95.4	128	—
1906	29.4	27.2	9.9	15.5	86.2	132	—
1907	28.8	26.5	12.3	15.1	91.8	118	—
1908	28.9	26.7	11.8	14.8	101.5	120	—
1909	26.5	25.8	10.8	14.6	78.2	109	—
1910	23.4	25.1	9.7	13.5	86.8	105	—
1911	21.6	24.3	10.9	14.6	103.1	130	—
1912	23.4	23.9	10.3	13.3	76.3	95	—
1913	23.39	24.1	12.08	13.8	86.4	108	—
1914	22.5	23.8	11.5	14.0	73.7	105	—
1915	21.16	21.9	12.83	15.7	67.7	110	—
1916	18.9	20.9	11.3	14.4	72.4	91	—
1917	15.5	17.8	12.25	14.4	88.6	96	—
1918	16.53	17.7	15.13	17.6	81.3	97	129.63
1919	16.86	18.5	11.97	13.8	83.9	89	79.52
1920	23.25	25.4	11.64	12.4	69.0	80	122.44
1921	20.27	22.4	9.58	12.1	67.5	83	102.56
1922	18.98	20.6	12.17	12.9	60.5	77	121.95
1923	17.77	19.7	9.27	11.6	53.2	69	83.33
1924	17.11	18.8	10.78	12.2	63.01	75	192.30
1925	16.56	18.3	11.09	12.2	60.5	75	52.63
1926	17.09	17.8	10.67	11.6	47.95	70	193.54
1927	14.52	16.7	11.16	12.3	46.98	69	107.14
1928	15.63	16.7	9.92	11.7	36.26	65	51.28
1929	13.98	16.3	10.96	13.4	47.29	74	32.26
1930	15.66	16.3	10.77	11.4	62.82	60	157.89

BOROUGH OF SWINDON.

CAUSES OF DEATH, 1930.

(Registrar-General's Official Returns).

CAUSES.	Males.	Females.	Total.
Measles	3	3	6
Whooping Cough	—	5	5
Diphtheria	5	3	8
Influenza	6	3	9
Meningococcal Meningitis	1	—	1
Tuberculosis of Respiratory System	22	15	37
Other Tuberculous Diseases	10	5	15
Cancer, Malignant Disease	56	41	97
Rheumatic Fever	3	1	4
Diabetes	3	7	10
Cerebral Haemorrhage, &c.	14	16	30
Heart Disease	81	81	162
Arterio-Sclerosis	10	4	14
Bronchitis	10	7	17
Pneumonia (all forms)	16	9	25
Other Respiratory Diseases	7	7	14
Ulcer of Stomach or Duodenum	—	1	1
Diarrhoea, &c. (under 2 years)	3	2	5
Appendicitis and Typhlitis	5	1	6
Cirrhosis of Liver	—	1	1
Acute and Chronic Nephritis	9	15	24
Puerperal Sepsis	—	2	2
Congenital Debility and Malformation, Premature Birth	19	26	45
Suicide	10	—	10
Other Deaths from Violence	6	1	7
Other Defined Diseases	51	62	113
	350	318	668

BOROUGH OF SWINDON.

INFANT MORTALITY.

1930. *Nett Deaths from stated causes at various ages under One Year of Age.*

Compiled from the Official Registrations.

CAUSES OF DEATH.			Under 1 week.	1—2 weeks.	2—3 weeks.	3—4 weeks.	Total under 4 weeks.	4 weeks and under 3 months.	3 months and under 6 months.	6 months and under 9 months.	9 months and under 12 months.	Total deaths under 1 year.
All Causes :—												
Certified	..	..	34	3	2	3	42	10	1	4	4	61
Uncertified	..	..	..	..	..	..	..	..	..	..	..	..
{ Small-pox .. ..			..	..	..	..	..	..	..	..	..	..
{ Chicken-pox .. ..			..	..	..	..	..	..	..	..	..	..
{ Measles .. ..			..	..	..	..	..	..	..	..	..	..
{ Scarlet Fever .. ..			..	..	..	..	..	..	..	..	..	..
{ Diphtheria and Croup .. ..			..	..	..	..	..	..	..	..	..	..
{ Whooping Cough .. ..			..	..	..	..	..	..	..	..	..	..
{ Diarrhoea .. ..			..	..	..	..	..	..	..	..	..	..
{ Enteritis .. ..			..	..	..	1	1	2	..	..	..	3
{ Tuberculous Meningitis .. ..			..	..	..	..	..	..	..	..	..	..
{ Abdominal Tuberculosis .. ..			..	..	..	..	..	..	..	..	..	..
{ Other Tuberculous Disease .. ..			..	..	..	..	..	..	..	..	..	..
{ Congenital Malformations			8	..	..	..	8	..	..	2	..	10
{ Premature Birth			16	3	1	1	21	2	..	..	..	23
{ Atrophy, Debility and Marasmus			8	..	1	..	9	2	..	..	..	11
{ Atelectasis .. ..			..	..	..	..	..	..	..	..	..	..
{ Injury at Birth .. ..			..	..	..	..	..	..	..	..	..	..
{ Erysipelas .. ..			..	..	..	..	..	..	..	..	..	..
{ Syphilis .. ..			..	..	..	..	..	1	..	..	..	1
{ Rickets .. ..			..	..	..	..	..	..	..	..	..	..
{ Meningitis (not Tuberculous) .. ..			..	..	..	..	..	..	..	..	..	..
{ Convulsions .. ..			..	..	..	..	..	1	1	..	1	3
{ Gastritis .. ..			..	..	..	..	..	..	..	..	..	..
{ Laryngitis .. ..			..	..	..	..	..	..	..	..	..	..
{ Bronchitis .. ..			..	..	..	..	..	2	..	..	1	3
{ Pneumonia (all forms) .. ..			..	..	..	1	1	..	..	1	2	4
{ Suffocation, overlying .. ..			..	..	..	..	..	..	..	..	..	..
{ Intestinal Obstruction .. ..			..	..	..	..	..	..	..	1	..	1
{ Inattention at Birth			2	..	..	..	2	..	..	..	..	2
TOTALS ..			34	3	2	3	42	10	1	4	4	61

**LIST OF HOSPITALS PROVIDED OR SUBSIDISED BY
THE LOCAL AUTHORITY OR BY THE COUNTY COUNCIL.**

TUBERCULOSIS.	Two beds at Winsley Sanatorium, near Bath, provided by the local authority. The Wilts County Council has two sanatoria for the treatment of tuberculosis; one at Winsley for early cases and the other at Harnwood, near Salisbury, for advanced cases.
MATERNITY.	A Maternity Hospital of 11 beds provided by the local authority. (A new Maternity Home of 24 beds will be opened early in 1931).
CHILDREN.	Nil.
FEVER.	A fever hospital provided by the local authority of 70 beds.
SMALLPOX.	A Smallpox Hospital provided by the Wilts County Council.
VENEREAL DISEASES.	A hospital with 6 beds provided by the Wilts County Council.
ORTHOPAEDIC.	Use of beds in Bath Orthopaedic Hospital.

LIST OF CLINICAL TREATMENT CENTRES IN THE BOROUGH OF SWINDON.

93

Name of Clinic.	Where Held.	Days and hours of attendance.	By Whom Provided.
Maternity and Child Welfare	61, Eastcott Hill ..	Mondays, Wednesdays and Fridays, 2 p.m. to 4.30 p.m. ..	Swindon Corporation
Maternity and Child Welfare	Girls' Club, St. Paul's Street	Tuesdays, 2 p.m. to 4 p.m. ..	"
Maternity and Child Welfare	Primitive Methodist School, Romsey Street ..	Thursdays, 2 p.m. to 4 p.m. ..	"
Maternity and Child Welfare	Primitive Methodist Church, Pinehurst ..	Mondays, 2 p.m. to 4 p.m. ..	"
Ante-Natal Clinic ..	Maternity Home, Milton Road	Tuesdays, Thursdays, Fridays and Saturdays, 2 p.m. to 4.30 p.m. ..	"
Minor Ailments ..	61, Eastcott Hill ..	Every morning 9 a.m. to 11 a.m. ..	"
Dental Clinic ..	Faringdon Road ..	Daily, 9.30 a.m. to 12.30 p.m., & 2 p.m. to 5 p.m. (Sats. 10 a.m. to 12.30 p.m.)	"
Eye Clinic ..	Faringdon Road ..	Tuesdays, 2 p.m. to 4.30 p.m. ..	"
Ringworm Clinic ..	61, Eastcott Hill ..	Tuesdays, 2 p.m. to 5 p.m. ..	"
Throat, Nose and Ear Clinic	" ..	Mondays, 2 p.m. to 5 p.m. ..	"
Enlarged Thyroid Glands	" ..	Thursdays, 2 p.m. to 5 p.m. ..	"
X-Ray Clinic ..	" ..	Thursdays, 2 p.m. to 5 p.m. ..	"
Electrical Treatment (General)	" ..	Thursdays, 2 p.m. to 5 p.m. ..	"
Electrical Ionization Clinic	" ..	Mondays, 2 p.m. to 4 p.m. ..	"
Observation Clinic ..	" ..	Fridays, 2 p.m. to 4.30 p.m. ..	"
Tuberculosis Clinic ..	" ..	Saturdays, 9.30 a.m. to 12 noon ..	"
Venereal Diseases Clinic	Tuberculosis Dispensary, Mil- ton Road ..	Thursdays, 10 a.m. to 3 p.m. ..	Wilts County Council
	Isolation Hospital, Gorse Hill	Men — Wednesdays, 6.30 p.m. to 8.30 p.m. Fridays, 6 p.m. to 8 p.m. Women and Children :— Mondays, 5 p.m. to 7 p.m. Fridays, 2 p.m. to 4 p.m.	"
Orthopaedic Clinic ..	Isolation Hospital Grounds, Gorse Hill ..	Tuesdays 11 a.m. to 5 p.m. ..	Voluntary Association

AMBULANCE FACILITIES.

- | | |
|--|--|
| (a) For Infectious Diseases. | Two Motor Ambulances are supplied by the Swindon Town Council. |
| (b) For non-infectious and accident cases. | A Motor Ambulance is provided by the Swindon Town Council. |

LIST OF LOCAL ACTS, SPECIAL LOCAL ORDERS AND GENERAL ADOPTIVE ACTS IN FORCE IN THE DISTRICT.

LOCAL ACTS AND ORDERS.

Swindon Water Act, 1894.
 Swindon New Town Electric Lighting Order, 1895.
 Swindon (Water) Orders of 1902 and 1919.
 The Swindon Corporation Act, 1904.
 Swindon Corporation (Wilts and Berks Canal Abandonment) Act, 1914.
 The Swindon Order, 1923.
 The Swindon Order, 1925.
 Swindon Corporation Act, 1926.
 The Swindon Order, 1927.
 The Swindon (Extension) Order, 1928.
 The Swindon Electricity (Extension) Special Order, 1929.

ADOPTIVE ACTS IN FORCE.

Date of Adoption.

The Public Health Acts Amendment Act, 1890	11th Nov., 1890.
Infectious Diseases (Prevention) Act 1890	11th March, 1902.
The Museums and Gymnasiums Act, 1891 (so far as it relates to museums)	6th June, 1905.
The Local Government and Other Officers Superannuation Act, 1922	1st July, 1924.

THE PUBLIC HEALTH ACTS AMENDMENT ACT, 1907 :—

Section 85 (Registries for Servants).	22nd Dec., 1926.
Part III. Secs. 36, 37, 49, 50 and 51.	} 3rd Jan., 1927.
Part IV. Secs. 62, 64 and 65.	
Part X. Sec. 93.	

THE PUBLIC HEALTH ACT, 1925 :—

Part II. (except Secs. 20. 24 and 29).	} 1st Feb., 1927.
Part III.	
Part IV.	
Part V.	

BOROUGH OF SWINDON.

BIRTH AND DEATH RATES.

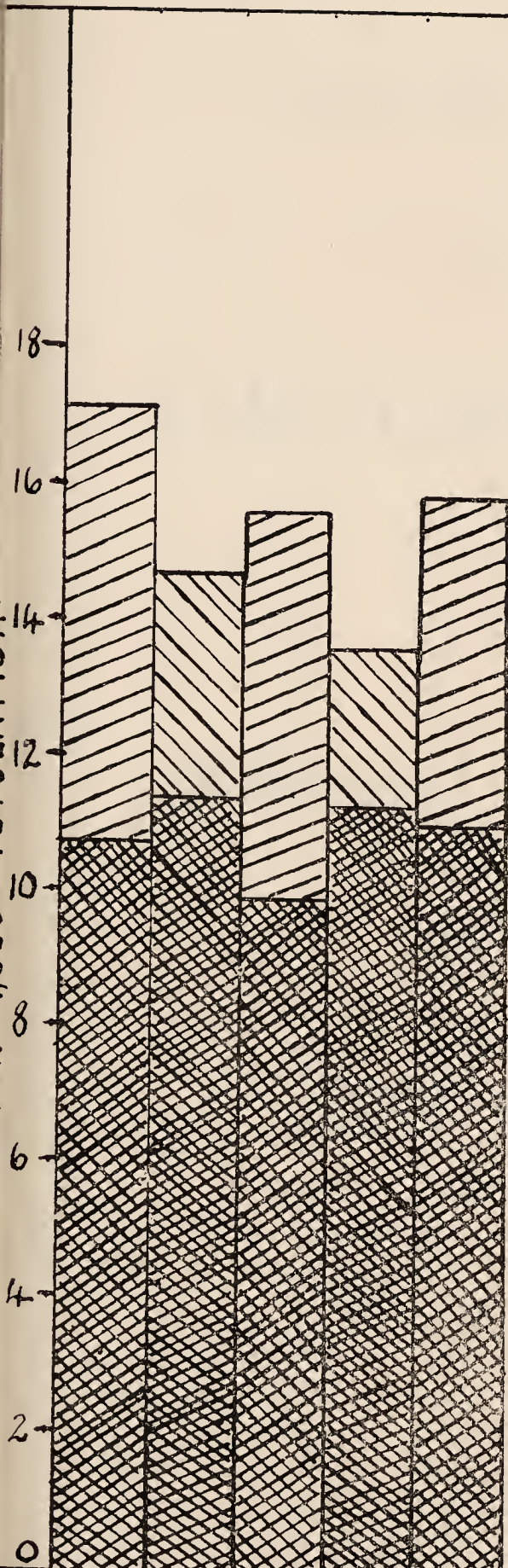


BIRTHS.

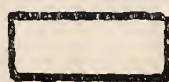


DEATHS.

1926-1930.



INFANTILE MORTALITY.



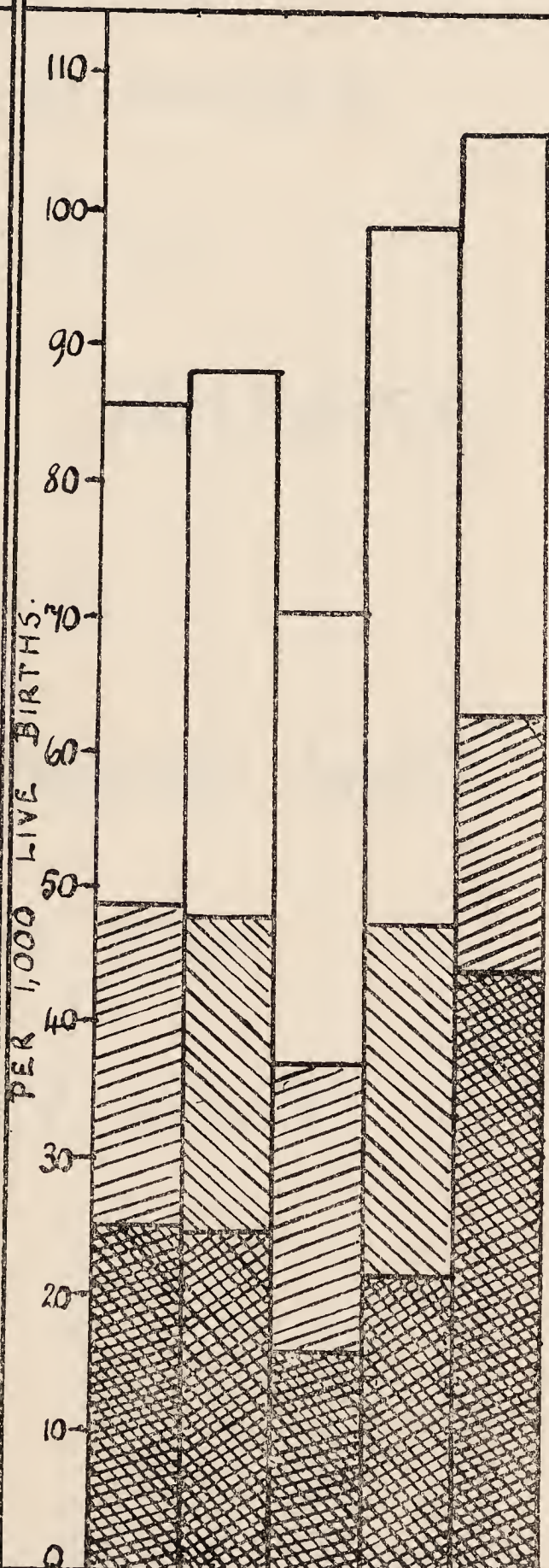
TOTAL INFANTILE MORTALITY, INCLUDING STILLBIRTHS.



INFANTILE MORTALITY (DEATHS OF INFANTS UNDER ONE YEAR).



DEATHS OF INFANTS UNDER ONE MONTH.



1926 1927 1928 1929 1930

1926 1927 1928 1929 1930

WASH. D. C. 1892.

ANNUAL REPORT

OF THE

NAVY DEPARTMENT

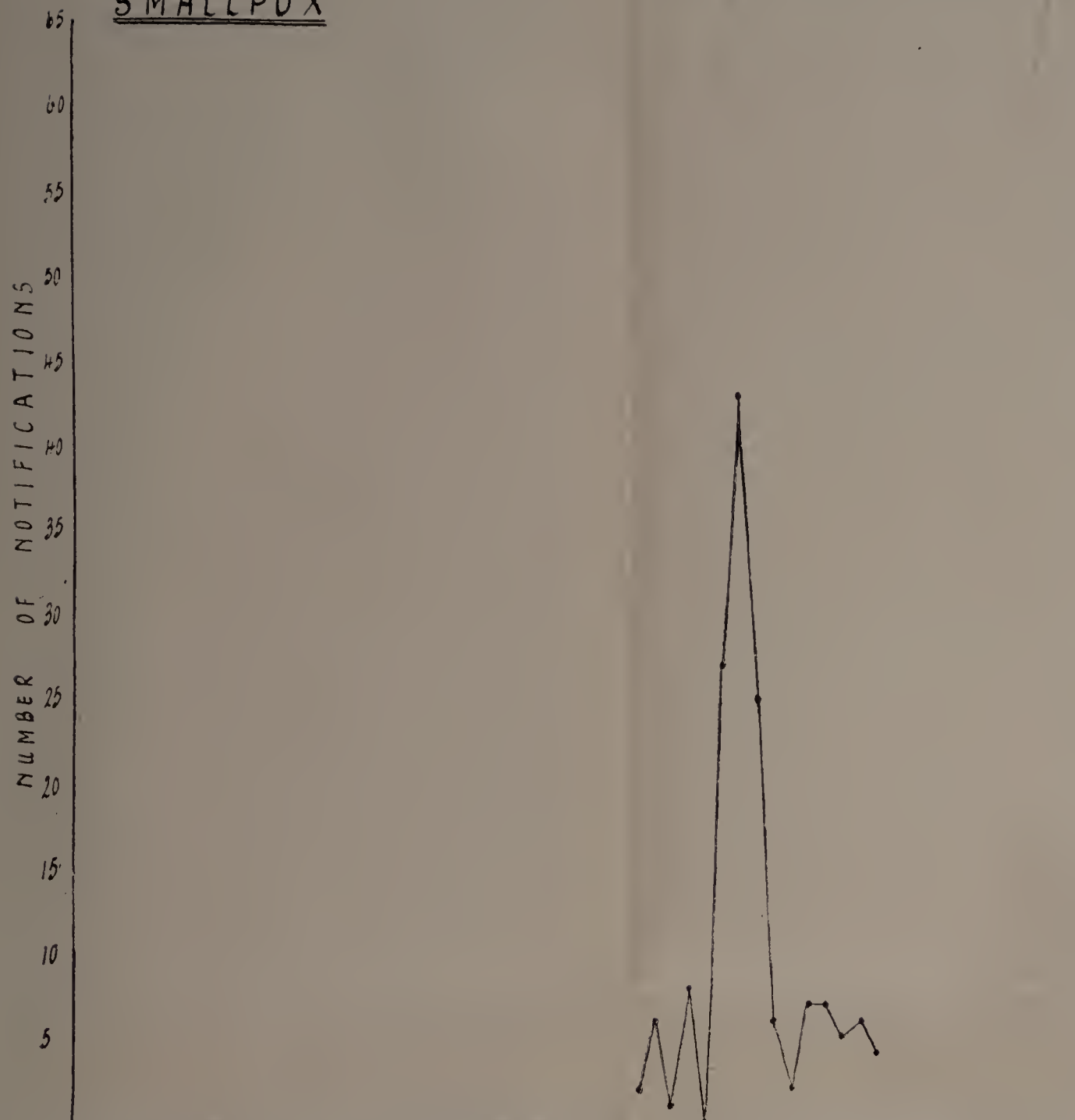
FOR THE YEAR

1892

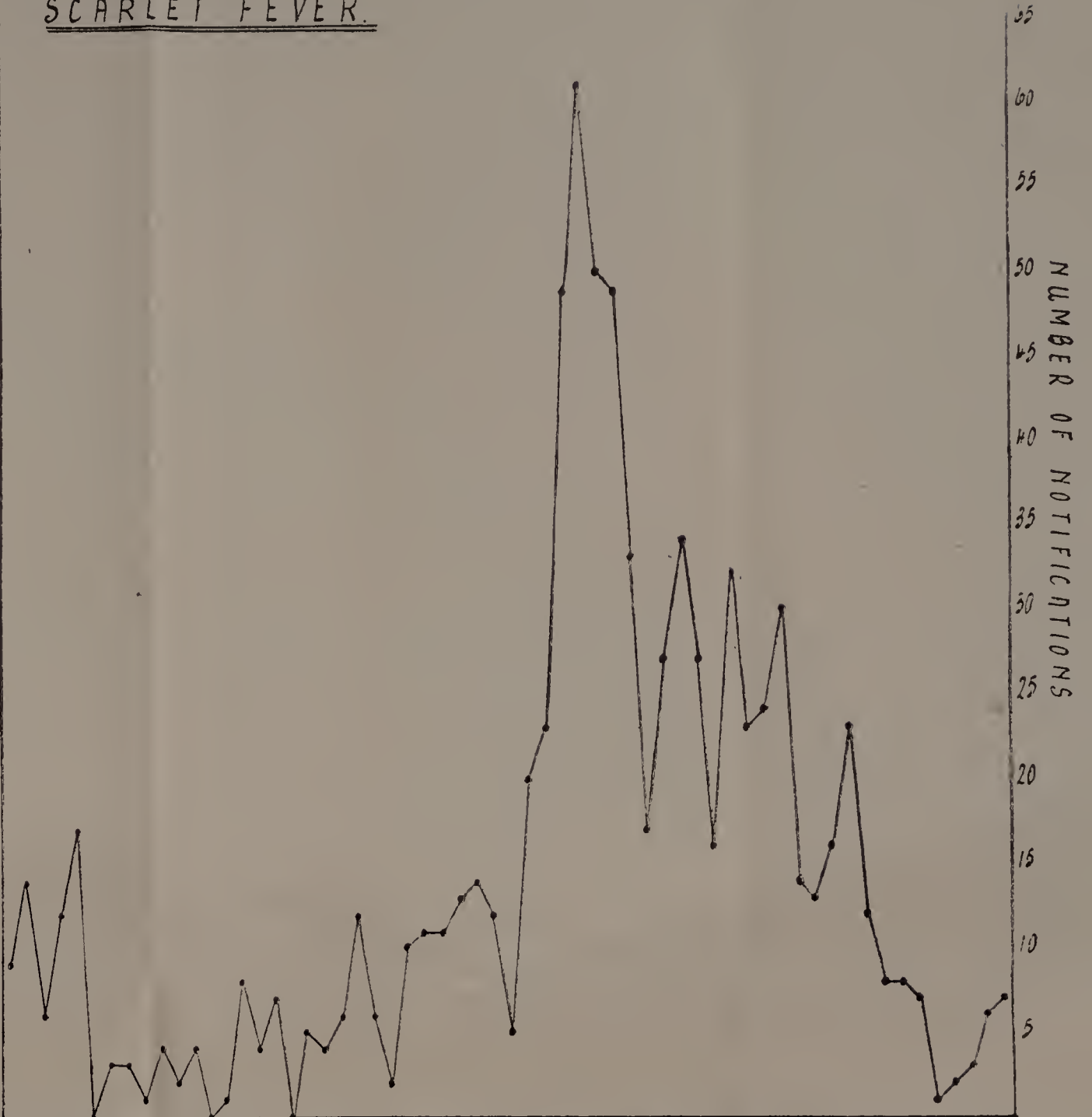
1893

GRAPHS SHOWING THE MONTHLY INCIDENCE
OF SMALLPOX, SCARLET FEVER, DIPHTHERIA
AND PNEUMONIA IN THE BOROUGH FOR THE
YEARS 1926 - 1930.

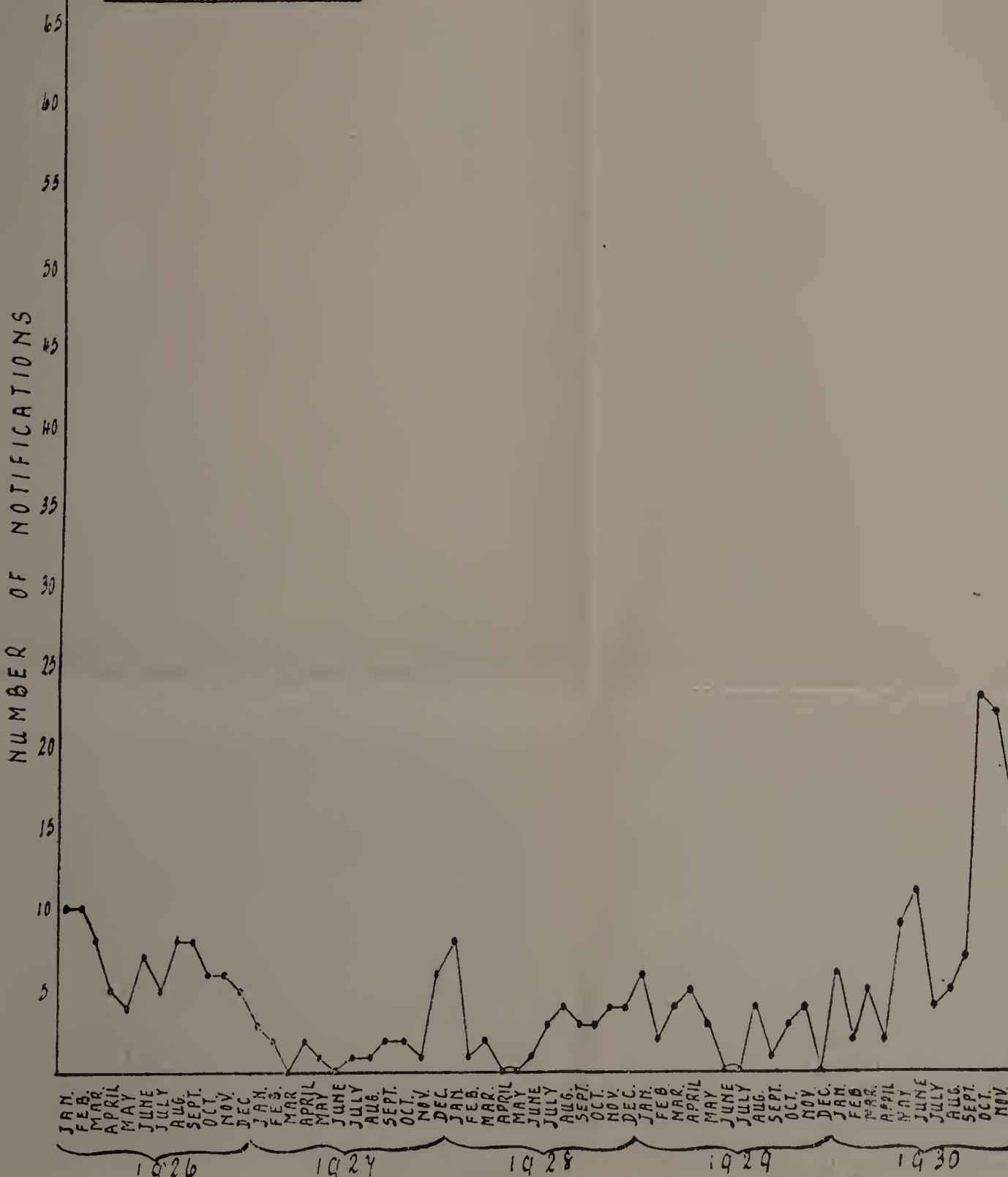
SMALLPOX



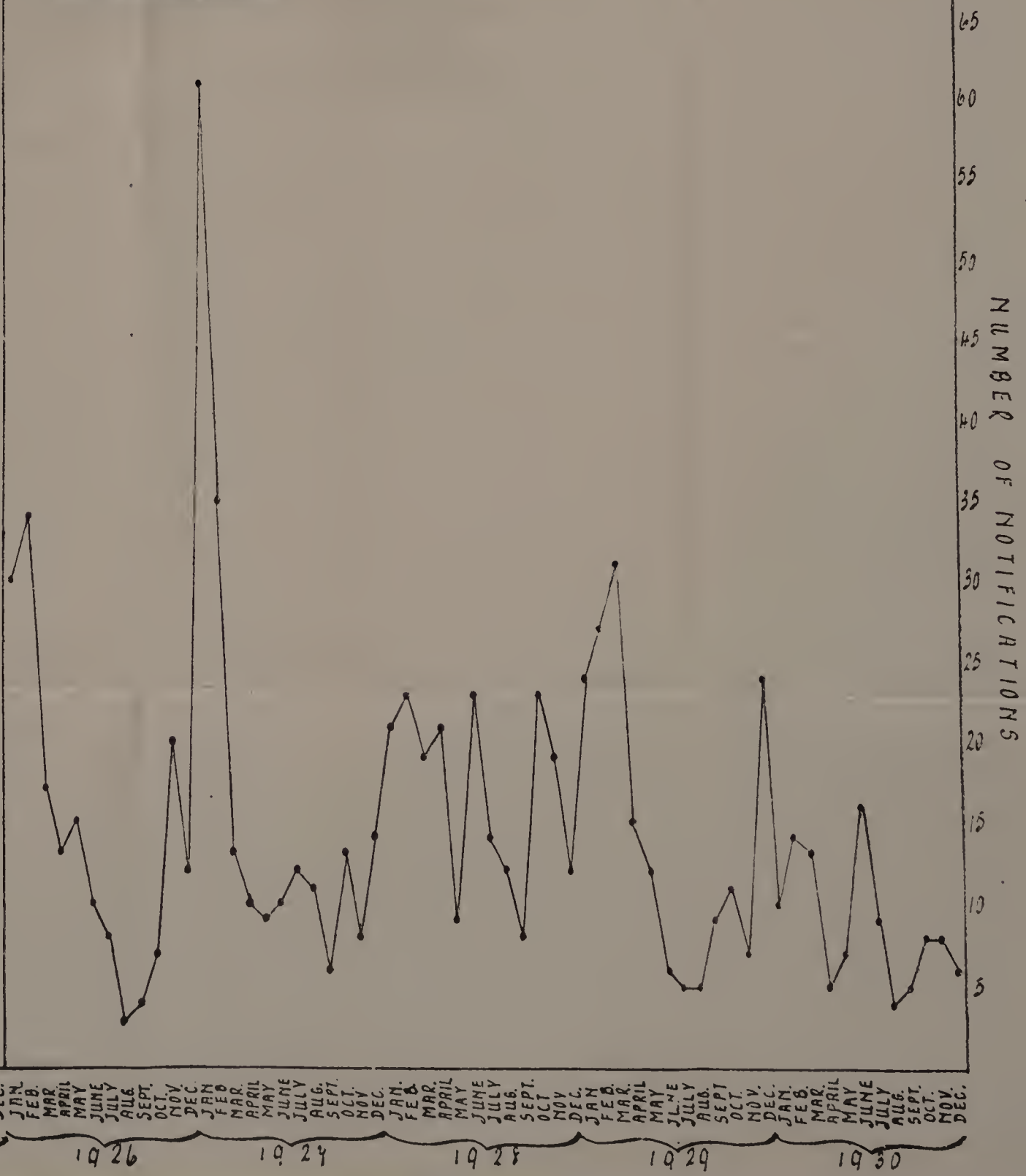
SCARLET FEVER



DIPHTHERIA



PNEUMONIA



APPENDIX.

BOROUGH OF SWINDON.

ANNUAL REPORT

OF THE

Chief Sanitary Inspector,

F. H. BEAVIS,

For the Year 1930.

To the Chairmen and Members of the Health, etc., Committee.

LADIES AND GENTLEMEN,

I have the honour of submitting my fifth Annual Report dealing with the work carried out by the Sanitary Department during the year ending 31st December, 1930.

Appended hereto will be found the tables giving full particulars of the inspections made during the year, in conformity with the requirements of the Ministry of Health.

1930 again proved to be a very busy year in the Sanitary Department. In January Mr. A. T. Selvey, Assistant Sanitary Inspector, left the service of the Corporation, having obtained a more remunerative post elsewhere. In the meantime, Mr. L. R. Eldred had been appointed to the post vacated by Mr. Selvey, and took up his duties on the 6th May. In August Mr. H. J. Pugh, who had been Clerk to the Department for about 6 years, obtained an appointment as Head Clerk in the Health Department of the Teddington U.D.C., and left the service of the Corporation. In the meantime, Mr. W. H. Paul, who had been a junior clerk in the Town Clerk's Department, was transferred to the Sanitary Department, and took up his new duties on the 15th September.

The continual change in the personnel of the Sanitary Staff, although unavoidable, is to be deplored, as it tends to materially affect the routine work of the Department.

MILK SUPPLY.

Swindon, being situated in the midst of an agricultural district, is particularly fortunate as regards its milk supply, the bulk of which is delivered to the consumer practically direct from the place of production, with a minimum of delay and handling, thus ensuring to the inhabitants an abundant supply of fresh and wholesome milk. Unfortunately, owing to various causes, we have been unable to carry on the work of bacteriological examination of milk, and this work was practically suspended during the year. This important work is highly essential, if the people's milk supply is to be kept at a high standard, as it enables the Department immediately to check any dealer whose milk does not come up to the standard aimed at. On the whole, the milk supply of the Borough is fairly satisfactory.

There are, at present, one farm and three bottling establishments licensed for the production and bottling, respectively, of Grade A (Tuberculin Tested) milk, and another farm is licensed for the production of Grade A milk. A subsidiary licence to sell

Grade A (Tuberculin Tested) milk within the Borough was granted to a dealer at Burderop, whilst Grade A milk is being retailed within the Borough from a farm at Hodson.

Lately there has been a noticeable tendency on the part of the public to require a graded milk. This is highly satisfactory, owing to the fact that graded milk is produced and retailed under greatly improved conditions.

During the year 5 traders were prosecuted for offences under the Milk and Dairies Order, 4 for bottling milk in the street and 1 for carrying on the business of a dairyman within the Borough without being previously registered by the Local Authority to do so. Fines amounting to £5 10s. were inflicted. The practice of bottling milk in the street is very objectionable, as these bottles are usually picked up at the door of one house and, after being filled with milk, are delivered at the door of another, without any sterilisation whatever—a practice which cannot be too severely condemned.

FOOD SUPPLY.

The following tables give a résumé of the work carried out under the Meat Regulations. A total of 14,411 animals was slaughtered for human consumption during the year, every one of which was seen by your Inspectors before being offered for sale as food. This work is absolutely necessary if the people's food supply is to be adequately safeguarded, as will readily be seen by a perusal of the tables relating to unsound food. In addition to this, there is considerable traffic in dead meat from outside districts, some of which is of very doubtful quality, and it is only by constant watchfulness on the part of the Sanitary Department that meat of this description is prevented from being foisted upon the public. The only solution to this problem, as I said last year, is the compulsory inspection of all meat at a recognised clearing house before it is allowed to be sold within the Borough. Legislation is, of course, necessary before this can be done, but in order to check the traffic in meat of doubtful quality I am of opinion that every town of over 10,000 population should be vested with the necessary powers.

The question of a Public Abattoir still remains in abeyance, but it must be fairly obvious to everyone that adequate meat inspection can only be carried out in such an institution. Absolute cleanliness is essential in dealing with the people's food supply, and an up-to-date Abattoir is the only place where the unpleasant business of slaughtering and preparing animals for human consumption can be properly supervised and controlled.

The unsound food destroyed during the year amounted to close upon 24 tons. This is somewhat less than last year, and is accounted for by the fact that certain butchers who deal in meat of a doubtful character and whose practice it was to slaughter these animals within the Borough, now find that it pays them better to slaughter them elsewhere, where there is a better chance of getting the meat through. As I stated last year, the work of meat inspection is at present carried out under considerable difficulties, owing to our slaughterhouses being scattered all over the Borough and to the lack of quick mechanical transport. This work takes up a tremendous amount of time, and it is almost becoming impossible to keep it at the high standard we have aimed at without some means of quick conveyance from place to place. Your Committee still has this matter under consideration, and it is hoped that a decision will be arrived at in the near future.

Cases relating to diseased meat and unsound food were conspicuous by their absence; notwithstanding the strict supervision exercised over all food shops, not a single case of exposing unsound food being discovered during the year.

CASEOUS LYMPHADENITIS.

During the year a large quantity of imported carcasses of frozen mutton was released from the ports on condition that they were submitted for inspection in the various districts to which they were consigned. In Swindon we had about 700 of these carcasses, and on inspection 6, or about 1%, were found to be affected with the disease.

Small shops and fish frying establishments, where cooked food is sold, still continue to increase with the expansion of the Borough, and although these premises are kept under constant supervision by your Officer, and every effort is made to ensure absolute cleanliness, it would be greatly to the advantage of the general public if all premises where food is prepared or sold were required to be registered or licensed by the Local Authority, because, as the law stands at present, it is only when an actual nuisance occurs or some unsound food is exposed for sale that any effectual steps can be taken to punish the offender.

HOUSING.

There has not been any material change in the housing situation during the year, and the problem of overcrowding is still with us. 42 houses were erected by the Local Authority and 163 by private individuals, but unfortunately this does not get to the root of the matter. Overcrowding invariably occurs amongst

the poorer classes of the community, and the inability to pay the rents asked for these new houses is a most important factor. Apparently overcrowding, to some extent, will remain until it is found possible to build houses which can be let at a rental of from 5s. to 7s. per week—a sum which, to most of these people, is the utmost to which they can go in order to rent a house in which to live.

During the year there was one prosecution for overcrowding, when 17 persons were found to be occupying a 4-roomed house—a most deplorable state of affairs. Here again, the problem was to get a house at a rental which these poor people were able to pay. Your Inspector did what he could to secure a suitable house for them, but signally failed, and finally each of the defendants was fined 10s. and 4s. costs, and ordered to abate the nuisance within 14 days.

There is still a considerable number of houses, the W.C.s of which are not provided with flushing cisterns. In most cases these W.C.s are kept in a satisfactory condition, but the provision of a flushing cistern to every W.C. is very desirable in the interests of public health.

TENTS, VANS AND SHEDS.

There are still a few caravans in the Borough which are being used for human habitation, but very little trouble regarding them was experienced during the year. Every effort is made to ensure that no nuisance arises from this class of the community, and the bye-laws relating to these dwellings are strictly enforced. The solution of the problem regarding these dwellings would appear to be some form of legislation prohibiting the use of tents, vans or sheds for human habitation in any Borough with a population of over 30,000.

THEATRES, CINEMAS, ETC.

There are, at present, one theatre, seven cinemas, one billiard hall and six dancing halls within the Borough. Since the end of the year under review, the Empire Theatre has been adapted for cinematograph purposes. These premises are regularly visited and every effort is made to ensure that they are kept in a satisfactory condition. Recently the ventilation of one of the dancing halls was found to be unsatisfactory, and steps are being taken to remedy these defects.

DISINFECTION OF VEHICLES AT THE CATTLE MARKET.

The disinfection of vehicles used for the conveyance of animals at the Cattle Market had been carried on by the Corporation for several years, but in October the Transit of Animals (Amendment) Order, 1930, came into force, and your Committee decided that in future this work should be carried out under the direct supervision of the Sanitary Department, and that a nominal charge be made for each vehicle disinfected. Below will be found a table setting out the receipts and expenditure relating to this work, up to the end of the year under review.

DRAINAGE WORK.

During the year the drainage systems of 123 houses were either relaid or overhauled under the direct supervision of your Inspector. This work is of the utmost importance, as several of the drains, when exposed, proved to be nothing more than elongated cesspools. A general survey of all the licensed houses within the Borough was also carried out, with the result that the unsanitary accommodation at these premises has been greatly improved.

GENERAL.

There are still several houses in the added area of the Borough where the water supply is from shallow wells. Samples of the water from these wells are periodically taken, and in three cases have proved to be unfit for domestic purposes. In each case the town supply was laid on at the request of your Officer, without any legal action being necessary.

The provision of a properly covered sanitary dustbin for every house is very desirable from a public health point of view, but unfortunately there are still a few houses where old boxes, etc., are being used for this purpose.

RATS AND MICE DESTRUCTION.

1930, owing to weather conditions, proved to be slightly less favourable than 1929 for the propagation of rats and mice, but despite the weather these vermin again proved troublesome at the various Tips; and to make matters worse, the Rat Catcher employed by the Corporation had the misfortune to poison his thumb in July, and was off duty for about four months. In the meantime your Committee appointed a temporary man to fill the

post, but, although this man did his best, he was quite unable to keep the rats and mice under control, with the result that the various Tips again became thoroughly infested with these vermin. Since the return to duty of the proper Rat Catcher, in October, it has been found necessary to concentrate almost entirely on the Tips, so as to bring down the number of rodents.

A perusal of the table under this heading will show that very useful work is being done, over 7,000 of these pests being accounted for.

I am, Ladies and Gentlemen,

Your obedient servant,

F. H. BEAVIS,

Chief Sanitary Inspector.

TABLE OF NUISANCES RECORDED AND ABATED, 1930.

Nature of Complaints registered.	Defects brought forward from 1929	Complaints received and visited during 1930	Total	No. of complaints abated during 1930	No. of cases not abated at end of year.
Defective drains	3	102	105	81	24
" traps	1	21	22	16	6
" spouts and eaves troughing	31	48	79	56	23
" roofs	91	95	186	144	42
" and dirty W.C. pans	16	97	113	103	10
" floors	42	65	107	74	33
" and insufficient yard paving	20	33	53	45	8
" walls	49	94	143	78	65
" flushing cisterns	8	64	72	41	28
" ceilings	30	52	82	55	27
" forecourts	6	2	8	6	2
" sinks	3	12	15	12	3
" offensive animals	—	9	9	9	—
Offensive accumulations	9	59	68	66	2
Choked drains	—	130	130	127	3
Damp walls	12	55	67	48	19
Dirty rooms	140	227	367	289	78
Overcrowding	15	15	30	23	7
Absence of covered receptacle at butchers' premises	—	5	5	5	—
Miscellaneous	166	591	757	616	141
TOTALS	642	1776	2418	1897	521

VISITS AND INSPECTIONS, 1930.

Infectious Disease	...	...	...	...	...	365
Work in course of construction	...	...	...	...	...	1497
Slaughterhouses	...	...	...	...	...	4047
Bakehouses	...	...	...	...	...	143
Dairies, Cowsheds and Milkshops	...	...	...	...	...	535
Markets	...	...	...	...	...	383
Outworkers	...	...	...	...	...	28
Common Lodging Houses	...	...	...	...	...	42
Fried Fish Shops	...	...	...	...	...	695
Re-visits	...	...	...	...	...	1481
Miscellaneous	...	...	...	...	...	1946
Workshops	...	...	...	...	...	475
Ice Cream Shops	...	...	...	...	...	79
Butchers' Shops	...	...	...	...	...	257
Contacts with Smallpox	...	...	...	...	...	1
Pig-killing on private premises	...	...	...	...	...	55
House-to-House Inspections	...	...	...	...	...	58
TOTAL	...	...	...	...	...	12087

DEFECTS IN OUTWORKERS' PREMISES.

Dirty Floors	...	...	...	...	...	1
Dirty Ceilings	...	...	...	...	...	—
Dirty Walls	...	...	...	...	...	—
Defective Roofs	...	...	...	...	...	—
,, Water-closets	...	...	...	...	...	—
,, Floors	...	...	...	...	...	—
,, Yard Paving	...	...	...	...	...	—
,, Firegrates	...	...	...	...	...	—
,, Walls	...	...	...	...	...	1
,, Drains	...	...	...	...	...	1
Other Defects	...	...	...	...	...	—
TOTAL	...	...	...	...	...	3

INSPECTION OF FACTORIES, WORKSHOPS AND WORKPLACES.

Including Inspections made by Sanitary Inspectors or
Inspectors of Nuisances.

Premises. (1)	Number of		
	Inspections. (2)	Written Notices. (3)	Occupiers Prosecuted. (4)
Factories (including Factory Laundries)	103	2	Nil
Workshops (including Workshop Laundries)	338	8	Nil
Workplaces (other than Outworkers' Premises)	34	2	Nil
TOTAL	475	12	Nil

DEFECTS FOUND IN FACTORIES, WORKSHOPS & WORKPLACES.—Contd.

Particulars. (1)	Number of Defects.			Number of Offences in respect to which Prosecutions were Instituted. (5)
	Found. (2)	Remedied. (3)	Referred to H.M. Inspector. (4)	
<i>Nuisances under the Public Health Acts :—*</i>				
Want of cleanliness ...	24	24	...	..
Want of ventilation ...	6	5	...	...
Overcrowding ...	...	...	...	...
Want of drainage of floors ...	2	2	...	...
Other nuisances ...	7	7	...	...
Sanitary accommodation { insufficient ...	—	...	...	...
unsuitable or defective ...	12	11	...	...
not separate for sexes ...	4	3	...	...
<i>Offences under the Factory and Workshop Acts :—</i>				
Illegal occupation of underground bakehouse (s. 101)	...	...	...	...
Other offences	...	...	...	...
(Excluding offences relating to outwork and offences under the Sections mentioned in the Schedule to the Ministry of Health (Factories and Workshops Transfer of Powers) Order, 1921) ...	...	...	...	...
TOTAL	55	52	...	...

* Including those specified in Sections 2, 3, 7 & 8 of the Factory and Workshop Act, 1901, as remediable under the Public Health Acts.

DISINFECTANTS.

Number of Applications	...	...	...	...	3419
Number of Applications Granted	...	...	...	...	3419
Quantity given: Fluid	...	...	...	422 $\frac{1}{8}$	galls.
Powder	...	...	6cwts.	0qr.	21lbs.

DISINFECTION.

Cases of Infectious Disease	...	...	...	396
,, Cancer	...	...	...	30
,, Consumption	...	...	...	124
,, Smallpox	...	...	...	—
Verminous Rooms	...	...	...	199
Number of Lots of Bedding destroyed	...	...	...	43
Number of Lots of Bedding disinfected	...	...	...	581
School Shawls disinfected	...	...	...	61
Library Books disinfected	...	...	...	59
Animals destroyed	...	...	...	8
Miscellaneous Articles disinfected	...	...	...	260
Miscellaneous Articles destroyed	...	...	...	—
No. of School Rooms disinfected	...	...	...	13

DAIRIES, COWSHEDS AND MILKSHOPS.

Dairies and Milkshops	...	...	...	...	49
Cowsheds	...	...	...	...	22
Milk Purveyors from outside the Borough	...	...	...	...	30
TOTAL	...	...	...	...	101

There are two farms and three bottling establishments licensed for the production and distribution of Grade A (Tuberculin Tested) Milk within the Borough.

One subsidiary licence was granted for the retailing of Grade A (Tuberculin Tested) Milk.

Inspections	...	...	...	...	...	535
NUISANCES FOUND—						
Dairies requiring limewashing	...	...	...	...	...	16
Cowsheds requiring limewashing	...	...	...	...	...	23
Dirty yards	...	...	...	...	...	—
Defective paving	...	...	...	...	...	3
Offensive accumulations	...	...	...	...	...	5
Defective ceiling plaster	...	...	...	...	...	—
Unsuitable and dirty utensils	...	...	...	...	...	3
Milk and containers uncovered	...	...	...	...	...	24
Defective floors	...	...	...	...	...	5
Defective vent shafts	...	...	...	...	...	2
Dirty conditions	...	...	...	...	...	22
Insufficient water supply	...	...	...	...	...	—
Choked drains	...	...	...	...	...	—
Defective water-closets	...	...	...	...	...	—
Defective drains	...	...	...	...	...	2
Miscellaneous	...	...	...	...	...	24
TOTAL	...	...	...	...	...	129

SLAUGHTERHOUSES.

Registered	...	...	...	...	...	8
Licensed	...	...	...	...	...	12
TOTAL	...	...	...	...	...	20

Number of Inspections	...	...	...	...	4047
NUISANCES FOUND—					
Requiring limewashing	...	...	...	...	38
Want of cleanliness	...	...	...	...	7
Insanitary condition of pens and yards	...	...	...	...	15
Offensive accumulations	...	...	...	...	15
Choked drains	...	...	...	...	4
Other defects	...	...	...	...	26
TOTAL	...	...	...	...	105

COMMON LODGING HOUSES.

On Register	...	...	...	...	...	1
Number of persons for whom accommodation is provided:—Adults, 111; Children, 8.						
Inspections	...	...	...	...	...	42

RATS AND MICE (DESTRUCTION) ACT, 1919.

The following is a table showing the work carried out by your officer under the above Act during the year under review:—

Rats Caught.	Complaints Received.	Due to Defects of Drains or Sewers.	Due to Structural Defects..
7,662	411	22	18

BAKEHOUSES.

Factory Bakehouses	...	...	...	...	14
Workshop Bakehouses	...	...	...	...	11
Domestic Bakehouses	...	...	...	...	1
					—
TOTAL	...	...	...	...	26
					—
Number of Inspections	...	...	...	...	143

NUISANCES FOUND—

Limewashing overdue	...	...	...	...	12
Dirty yards	...	...	...	...	1
Ceilings requiring re-painting	...	...	...	...	1
Choked drains	...	...	...	...	2
Dirty W.C. pans	...	...	...	...	2
No separate accommodation for sexes	...	...	...	...	—
Accumulations of manure	...	...	...	...	2
Defective yard paving	...	...	...	...	1
Defective vent shafts	...	...	...	...	—
Want of cleanliness	...	...	...	...	2
Other defects	...	...	...	...	2
					—
TOTAL	...	...	...	...	25
					—

FOOD SUPPLY.

There are on the registers of the Department—

Butchers Shops	...	...	...	...	90
Butchers Stalls (in covered market)	...	...	...	...	3
Wholesale Meat Store	...	...	...	...	1
Fried Fish Shops	...	...	...	...	36
Ice Cream Shops	...	...	...	...	144
Cooked Meat Shops	...	...	...	...	39

and these premises are regularly inspected by your officers.

MEAT AND FOOD DESTROYED.

			Tons	cwts.	qrs.	lbs.
Carcases of Beef and Offal	...	...	16	6	1	9
Portions of Beef	...	...	2	8	1	20½
Carcases of Pig and Offal	...	...		10	2	2
Portions of Pig	...	...		6	1	17½
Carcases of Mutton and Offal	...	...		6	3	7
Portions of Mutton	...	...				9
Plucks	...	...		5	0	3
Heads	...	...	1	3	1	11½
Livers	...	...		13	2	8¼
Lungs	...	...		4	2	2
Offal	...	...		17	2	19
Hearts	...	...				11½
Kidney	...	...				1¾
Plate Corned Beef	...	...				15¼
Tripe	...	...			1	24
Kippers	...	...			1	20
French Potatoes	...	...		4	0	0
Chilled Beef Suet	...	...				15
Prawns	...	...			1	8
1 Fowl	...	...				4½
Herrings	...	...		5	1	8
Fish	...	...			3	6
1 Turkey	...	...				14
24 Rabbits	...	...				—
TOTAL			23	14	2	12¾

PUBLIC HEALTH (MEAT) REGULATIONS, 1924.

The following is a table showing the number of carcasses inspected during the year, together with the average per week:—

	Beasts.	Calves.	Pigs.	Sheep.	Total.
Total Inspected ...	1318	1342	4898	6853	14,411
Average per Week ...	25.34	25.80	94.19	131.78	277.13

CLASSIFICATION OF THE DISEASES FOUND
IN THE UNSOUND FOOD.

					Tons	cwts.	qrs.	lbs.
Abscesses	...	...	...	...		14	3	8 $\frac{1}{2}$
Actinomycosis	...	...	...	...		1	1	2
Angioma	...	...	...	...		1	0	27
Bone Taint	...	...	...	...		1	0	12
Bruising	...	...	...	...	1	7	0	4
Caseous Lymphadenitis	...	...	...	...		3	1	12
Cirrhosis	...	...	...	...		7	3	19
Cystercercus Tenuicollis	...	...	...	...			1	11
Decomposition	...	...	...	...		9	2	24 $\frac{1}{2}$
Degeneration	...	...	...	...		1	1	11 $\frac{1}{4}$
Distomum Hepaticum	...	...	...	...		4	2	11
Echinococcus Veterinorum	...	...	...	...			1	10
Emaciation	...	...	...	...	1	1	2	6
Hæmorrhagic Infiltration	...	...	...	...			1	24
Ill-bled	...	...	...	...		18	0	17
Inflammation	...	...	...	...	2	10	0	19 $\frac{1}{2}$
Jaundice	...	...	...	...			3	6
Johnes Disease	...	...	...	...	1	6	2	3
Moribund	...	...	...	...		1	0	16
Necrosis	...	...	...	...			1	4
Oedema	...	...	...	...	1	8	2	11
Pericarditis	...	...	...	...	1	19	2	15 $\frac{1}{2}$
Peritonitis	...	...	...	...				12
Pleuritis	...	...	...	...				27
Pneumonia	...	...	...	...		3	0	27
Sarcoma	...	...	...	...		1	0	2
Septicaemia	...	...	...	...		9	1	0
Septic Metritis	...	...	...	...	1	0	1	10
Strongylus Filaria	...	...	...	...			1	18 $\frac{1}{2}$
Strongylus Paradoxus	...	...	...	...				6
Strongylus Rufescens	...	...	...	...			1	20
Swine Erysipelas	...	...	...	...			2	25
Toxaemia	...	...	...	...		7	3	0
Tuberculosis	...	...	...	...	8	4	0	16
Unsoundness	...	...	...	...		6	1	19
Urticaria	...	...	...	...				4
TOTAL				...	23	14	2	12 $\frac{3}{4}$

**TABLE SHOWING THE RESULTS OF BACTERIOLOGICAL
EXAMINATION OF MILK SAMPLES.**

Sample.	Organisms per $\frac{1}{1000}$ C.C.	T.B.	Coli per $\frac{1}{10}$ C.C.	Sediment.
Nil	Nil	Nil	Nil	Nil

HOUSING.

Number of new houses erected during the year :—

(a) Total (including numbers given separately under (b)	205
(b) With State assistance under the Housing Acts :—	
(i) By the Local Authority	42
(ii) By other bodies or persons	—

I. INSPECTION OF DWELLING-HOUSES DURING THE YEAR :—

(1) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts)	777
(2) Number of dwelling-houses (included under sub-head (1) above) which were inspected and recorded under the Housing Consolidated Regulations, 1925	58
(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	—
(4) Number of dwelling-houses (exclusive of those referred to under the preceding sub-head) found not to be in all respects reasonably fit for human habitation	508

II. REMEDY OF DEFECTS DURING THE YEAR WITHOUT SERVICE OF FORMAL NOTICES :—

Number of defective dwelling-houses rendered fit in consequence of informal action by the Local Authority or their officers	592
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III. ACTION UNDER STATUTORY POWERS DURING THE YEAR :—

A. Proceedings under Section 3 of the Housing Act, 1925 :—

(1) Number of dwelling-houses in respect of which notices were served requiring repairs ...	1
(2) Number of dwelling-houses which were rendered fit after service of formal notices—	
(a) By Owners	1
(b) By Local Authority in default of owners ...	—
(3) Number of dwelling-houses in respect of which Closing Orders became operative in pursuance of declarations by owners of intention to close ...	—

B. Proceedings under Public Health Acts:—

- | | | | | | | | | |
|-----|--|-----|-----|-----|-----|-----|-----|----|
| (1) | Number of dwelling-houses in respect of which notices were served requiring defects to be remedied | ... | ... | ... | ... | ... | ... | 4 |
| (2) | Number of dwelling-houses in which defects were remedied after service of formal notices— | | | | | | | |
| (a) | By Owners | ... | ... | ... | ... | ... | ... | 4 |
| (b) | By Local Authority in default of owners | ... | | | | | | -- |

C. Proceedings under Sections 11, 14 and 15 of the Housing Act, 1925:—

- | | | | | | |
|-----|--|-----|-----|-----|-----|
| (1) | Number of representations made with a view to the making of Closing Orders | ... | ... | ... | --- |
| (2) | Number of dwelling-houses in respect of which Closing Orders were made | ... | ... | ... | --- |
| (3) | Number of dwelling-houses in respect of which Closing Orders were determined, the dwelling-houses having been rendered fit | ... | ... | ... | --- |
| (4) | Number of dwelling-houses in respect of which Demolition Orders were made | ... | ... | ... | --- |
| (5) | Number of dwelling-houses demolished in pursuance of Demolition Orders | ... | ... | ... | --- |

DISINFECTION OF VEHICLES AT THE CATTLE MARKET.

Date of Market.	No. of Vehicles Disinfected.	Fees Received.	Expenditure.
1930.		£ s. d.	£ s. d.
Oct. 27	67	1 2 4	19 0
Nov. 3	45	15 0	14 0
„ 10	76	1 5 4	19 0
„ 17	39	13 0	14 0
„ 24	42	14 0	19 0
Dec. 1	29	9 8	14 0
„ 8	60	1 0 0	19 0
„ 15	26	8 8	14 0
„ 22	27	9 0	14 0
„ 29	25	8 4	19 0
Totals at end of year ...	436	£7 5 4	£8 5 0

